

OCT 17 1923

AMERICAN ARTISAN and Hardware Record

Vol. 86. No. 15. 620 SOUTH MICHIGAN AVENUE, CHICAGO, OCTOBER 13, 1923. \$2.00 Per Year.

"—and It's Easy to Install"

ONE of our Dealers happened to be at the Factory recently and had occasion to discuss the FarQuar System with a visitor. Here are some of his comments:—

"The FarQuar is the easiest to assemble, and most simple to operate, of any furnace I have ever seen. Dozens of times I have surprised my customers by the ease and speed with which I erected a FarQuar.

"Then there is the matter of inspection and convenience. Every part of a FarQuar is easily accessible from the front. There are no obscure winding flues and the ashes can be removed without the usual dirt and annoyance. Repairs are rarely needed, but when they are, they can be made quickly and easily without tearing down the equipment.

The best part of it all is, the Dealer above quoted not only sells and installs a large number of FarQuar Systems, but he also uses one in his own home. And yet, he told only a small part of the FarQuar story. You will find the remainder intensely interesting. Ask for booklet of complete information on house heating. It's Free.

The Farquhar Furnace Co.
210 FarQuar Building
Wilmington, Ohio

*The FarQuar accomplishes
results impossible with
any other heating
system.*

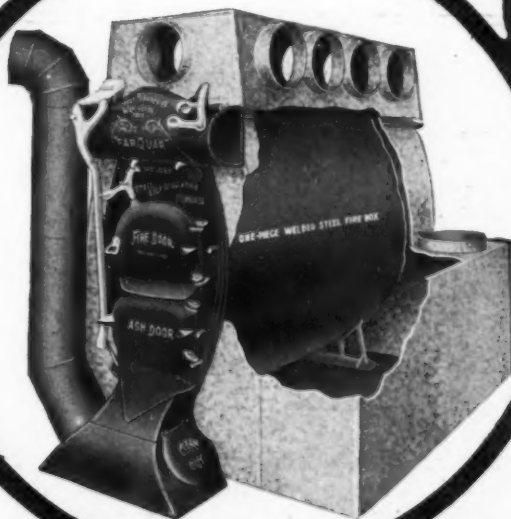
A Money-Making Opportunity

FarQuar Advertising is awakening people to the need for better heating methods in the home. Competent and reliable men can make good money as exclusive FarQuar Distributors. Write us for particulars.

"And the operation of the Automatic Control is very simple. Once installed it needs no attention, yet it effectively regulates the fire and maintains a uniform temperature in all kinds of weather. You'll find FarQuar users enthusiastic over this automatic control.

"It is so easy to demonstrate the superior advantage of FarQuar features that I am able to sell the FarQuar the year 'round. Folks are beginning to want FarQuar results for they realize no other furnace can give them. That is one reason why the FarQuar is the only heating system I would sell."

THE
FARQUAR
HEATING AND VENTILATING
SYSTEM



W

Write for the complete Wise Catalog

Install one
Wise Furnace
and you'll
install
many more



S

Wise
Sales
and
Service
spell
Success
for
Wise
Dealers

Every
enterprising
dealer
should
investigate
Wise
Furnaces

E

THE WISE FURNACE CO.
AKRON, OHIO



THERE are many good reasons why you should handle Moncrief Furnaces. For instance, the Moncrief line is complete — Pipe Furnaces, Pipeless, Three-Pipe Majestic Moncrief — in various styles and a complete range of sizes. Whatever your customers requirements are the Moncrief line is sure to satisfy.

Write today for complete catalog

**THE HENRY FURNACE
& FOUNDRY CO.**

Cleveland, Ohio

Eastern Sales Offices

E. L. Garner, 177 23rd St., Elmhurst, N. Y.

F. H. Hanlon, Batavia, New York.

W. S. McCrea, 105 Federal Street, N. S.,
Pittsburg, Pa.

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Johnson Furnace Company, Kansas City, Mo.

Chas. B. Walker, 254 Russell Street, Portland,
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Southern Distributors

Moncrief Furnace Company, Atlanta, Ga.

MONCRIEF FURNACES

Founded 1880 by Daniel Stern

Thoroughly Covers
the Hardware, Stove,
Sheet Metal, and
Warm Air Heating and
Ventilating Interests

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YOU MUST PUT MUCH IN IF YOU EXPECT TO TAKE MUCH OUT.

An eminently successful business man recently made this statement:

"If you were to buy a farm in Iowa, rich as the soil might be, you would get little for your investment if you did not sow seeds, till the soil and constantly work for growth of the grain. If you merely went out to the farm once a week and listened to some music and a good speaker and then went back to a business in the city for another week, you would get just as much out of your farm as the sheriff would leave you."

This man might have continued in this manner:

"On the other hand, for every bushel of wheat you put into properly tilled and fertilized ground you will reap twenty, thirty, fifty bushels."

It is the same way with your trade organization:

You pay your dues, attend meetings off and on, and soon you develop a grouch because "the association does not produce results."

But whose fault is it?

The money you paid when you joined and your monthly dues represents the money the man paid for his land. Your attendance at meetings represents the weekly or monthly visits that he makes to the farm.

Would you not say that he was to blame for the weeds that grew and the failure of the crop that did not pay?

You would be one of the first to laugh at

any man who after buying a car would expect it to run without gasoline or proper care.

And yet, you kick because your trade association does not produce results, when you refuse to do any of the work which must be done if the association machinery is to be operated successfully.

Paying dues promptly and attending meetings regularly are important factors in organization activities, but of far more importance is the working together, under proper direction, of all the members—each one in the field best suited to him.

Trade organization work means coöperation, and coöperation means "working together."

And one of the reasons—the chief one, in fact—for the lack of results of some trade organizations lies in this very circumstance that the members are "buck passers" to a very large extent.

We know of more than one association where the members at meetings promise to try to bring a prospect to the next meeting—and then promptly bury that promise with an avalanche of excuses, none of which is the real reason. Every man wastes enough time every day to more than make up for the hour that he might have to spend in locating a prospective member and persuading him to be his guest at the next meeting.

No great object is ever attained without real work.

Random Notes and Sketches.

By Sidney Arnold

"Some people are very free with advice, whether it be wanted or not," said Charlie Binns, of the Copper Clad Malleable Range Company, to me the other day while we had lunch at the "Missouri Athletic," "and most of the time their advice fits as well as that of a physician that I know of.

"This doctor had just been introduced to a mother and her small son at a church sociable.

"'Madam,' he said learnedly, 'you should have your child's tonsils removed at once, so he will not have to wear those bandages about his throat.'

"'All right, doctor,' the mother replied agreeably, 'if you think it will help that boil on his neck.'"

* * *

I am going to break a rule and suggest that you cut the following statement out, after carefully reading it, and place it where you can read it every day, and where everybody who enters your place of business will notice and read it.

The statement was made by the late President Harding as a part of his address delivered at Portland, Oregon, on July 4, 1923:

"I would like to acclaim the day when there is no room in America, anywhere, for those who defy the law; and those who seek our hospitality for the purpose of destroying our institutions should be deported or held securely behind prison walls. It is a great thing to build up the surpassing republic, but it is a greater thing to preserve it.

"This land of ours has little to fear from those who attack from outside our borders, but we must guard zealously against those who work within our borders to destroy the institutions which have given them hospitality. A republic worth living in is worth living for; and a republic worth defending is worth our patriotic vigilance, so that it shall not be undermined by those

who preach the gospel of envy and hate, or destroy in experiments against which forty centuries of human experience cry out in protest."

I came from foreign stock and am proud of my ancestry, but I am still more proud and grateful that I have had a share in propagating and defending the principles upon which this great nation of ours was founded and is living today.

* * *

Frank B. White, who is one of the best advertising men that I know (he has sense enough to confine his efforts to serving agricultural advertising), has this to say about advertising:

"To make a success of advertising, one must be prepared to stick to it tenaciously. He should know before he begins it that he must spend money—a great deal, and he must continue to spend it. Advertising is a growth. Results at the beginning are not always commensurate with expenditures. In this it is not different from other phases of substantial business prosperity. Advertising does not jerk; it pulls. It begins very gently at first, but the pull is steady. It increases day by day and year by year

* * *

until it exerts an irresistible power. It is likened to a team pulling a heavy load. A thousand spasmodic, jerky pulls will not budge the load, while one-half the power exerted in steady effort will start and keep it moving. Great successes in advertising have been made by men of daring, courage, conviction and stick-to-it-iveness."

* * *

Some people are just naturally woman haters, and others are just as naturally the other way.

Two colored gentlemen were overheard by Frank Carfer, of the J. M. & L. A. Osborn Company, in the following colloquy:

"Howdy, Sam, how is yo' boy?"

"Tollable, tollable."

"Seed him last night, an' I noticed somepin pow'ful strange about him—yassuh, pow'ful strange."

"He cain't help it, Pete. Don't blame him. Dat's his wife."

* * *

This one is not exactly a new story, but Fred Gross, who fixes up automobile radiators, installs furnaces and puts up gutters when he can spare a bit of time from his duties as Secretary of the Illinois Sheet Metal Contractors' Association, told it to me the other day:

The occupants of the parlor car of the Limited were startled by the abrupt entrance of two masked bandits.

"T'row up yer hands!" commanded the bigger of the two. "We're gonna rob all the gents and kiss all the gals."

"No, pardner," remonstrated the smaller one gallantly, "We'll rob the gents, but we'll let the ladies alone."

"Mind your own business, young fellow," snapped a female of uncertain age. "The big man's robbing this train."

* * *

Mulroyd, who sells "Master" warm air furnaces along the Mississippi River, got on the train going to Quincy the other evening and spying me in the smoking compartment sat down and proceeded to tell me about some of the towns that we were going through, it being my first trip on that road. As we pulled out of one of these little river towns he said that at one time there were two jails, one directly across the street from the other.

Asking for enlightenment of a passing Missourian, Mr. Mulroyd said:

"What's the reason for building two jails across from each other like that? Surely you haven't enough law breakers here to fill both."

"Nope, you're right, mister," admitted the townsman. "But we got two unlawful men here in for life and they just naturally can't get along with each other in the same building."

The Candy Sale Principle Applies with Same Force to Warm Air Furnace Selling.

"Three Delicious Mouthfuls for a Penny" Will Sell More Good Candy Than "Three for a Cent."

I SAW a sign in neighborhood candy shop—one of those places that cater to school children—it bore this suggestion, "Three delicious mouthfuls for a penny."

In the same block there was another shop of the same kind, also with candy displayed in the window, same sort of stuff—no better and no worse. Here a sign said, "Three for One Cent."

It happened to be recess time when I passed, and I noticed that by far the greater patronage went to the first mentioned store.

When things were quiet once more I asked the woman who owned that store what she thought brought so many more children to her store in comparison with those who patronized the other store.

Her reply was, "We try to make it pleasant for them here. They know that our candy is good and that we give them as much as any other store here does."

"But I pay particular attention to having nice, attractive cards in my window and in my show case, and I know that many of them come to me just because of these nicely worded cards that we get from the manufacturers."

A good furnace, properly cared for, will last twenty years and frequently longer.

In the section around Chicago this means that it will stand the ravages of a more or less heavy fire and the attendant shakings for a period of approximately 4,000 days and nights.

In other words, the entire cost of the furnace with pipes, fittings, registers and labor of installation in an average house of "seven rooms and bath" is considerably less than ten cents a day if distributed over the period mentioned.

But supposing we call it ten cents a day, what does that mean in com-

parison with the cost of the fuel that we must have in order that heat may be developed and distributed by the furnace?

It is safe to say that one hundred dollars will be a low estimate of the fuel cost per year, which means an average outlay of fifty cents a day for coal.

In other words, the daily cost of the fuel that we burn is five times as great as the daily cost of the furnace in which it is burned.

That is just one little pointer for you.

Selling a furnace installation is just like selling an automobile. There are lots of Ford touring cars sold, but many of those who have been buying them are willing to consider sedans and better grades and able to pay the additional price, if the salesman has sense enough to present his proposition in the right way.

Now, to get back to the idea expressed in the headline—

Some of you object to putting definite prices on your furnaces in your advertising, or to quoting a man a price while talking with him, until he has been "properly interested."

While some of you make a feature of the price in your advertising.

It does not make any difference what you think about it—

Some time you will have to tell the prospective purchaser what you want for the job.

And when it comes down to brass tacks, it is not of very great importance when that price is quoted—

Not nearly as important as the manner in which it is made known to the prospect.

For example—

Mr. and Mrs. Jones have been

considering the buying of a heating plant. They have talked with the Smiths, next door; with the Johnsons, upon the hill; with several others.

They have a fairly good idea of what they want and what they will have to pay, because they have, of course, asked the Smiths and the Johnsons what they paid.

Then you hear in some way that Jones is figuring on putting in a furnace and you go after him—hot foot.

You want to install that furnace, but some "hot air expert" on salesmanship has told you that it is always bad policy to quote a price "until the prospect has been properly prepared, by working on his imagination, his desire, etc."

So when Jones asks you how much your price will be you "stall"—and by your very "stalling" you create in his mind the mistaken notion that your price is higher than it ought to be!

In other words, you establish a hindrance, a handicap against the consummation of the sale, so far as you are concerned!

Don't sidestep the price question!

Tell Jones that if he buys your furnace and lets you install it the way you know that it ought to be installed, his price will be — cents for every day in twenty years that furnace heat is required, and that you will guarantee to heat his house.

That is really what he wants to know—not what the price of the castings, of the fittings and of the installation work may be—but what it will cost him to secure an apparatus that will make it possible for him to have a comfortably heated house for a certain period.

A man may want to buy an automobile.

He may have only a thousand dollars for that purpose.

Does he want a sedan, a touring car, a coupe?

Does he want a car "fully equipped," or is he satisfied to do without some of the many "extras"? Does he want a car that will last long or is his mind bent on a "sport" model?

If price were really the chief consideration in selling a furnace installation, some of the largest manufacturers would not be in business, because there would not be demand enough for their product to keep them going. Price is a factor, but to the installer who knows his business it is far from being the chief factor.

All these are questions that must be decided by somebody before the sale is made—and in almost every case they are decided for him if the salesman knows his business.

In the same way, we have the following questions pertaining to furnace heating, among many others.

Does he want a real warm air heating plant that will deliver heat to every part of his home under any and all conditions?

Does he want only part of the house heated?

Does he want a pipeless, a three-way, or a real pipe job?

How much is he willing to pay?

And keep in mind that he knows fairly well what he will have to pay for any type of a warm air furnace.

Of course, it is usually considered poor policy to ask a prospect how much he is willing to pay for a "good" job, because he may think that by this question you may lead him to agree to pay more than he ought.

But on the other hand, it might also be maintained that if the furnace salesman quotes a definite price without first ascertaining the character of the home and the layout of pipes, etc., he will be quoting a price which could not in any sense be said to "cover the job."

Some of the men on whom I call have no idea as to the service which I can render them, and yet their first question is more than likely to

be, "What does it cost?"

My answer is usually, "No more than you can afford to pay—from a profit standpoint."

That takes care of the price until I have shown the man what I will be able to do for him if he will let me do the work the way I know from experience will bring him the results and satisfaction that he expects to receive from his investment.

Let us return to that \$400.00 furnace installation:

It means that the owner, with such a furnace, will pay out for every day during the twenty years that his furnace is in operation, ten cents to pay for the furnace and fifty cents for coal.

He may be able to induce a man to put a furnace in for \$300.00—which apparently gives him a saving of \$100.00.

But how does it work out?

Unless your price was altogether out of proportion, there will have to be some skimping on that \$300.00 job.

And that will mean heavier firing, thus using more coal, and quicker burning out of the grates and fire box, and you can safely figure on 20 per cent more fuel cost and that entire replacement will be necessary in ten years.

In other words:

In ten years, not only will the entire \$100.00 "saving" have been lost, but in addition an entirely new furnace will have to be installed—and probably with change of cold air ducts and warm air pipes, making a still more expensive job than the original one.

There is no more reason for comparing prices on two furnace installations than there is for comparing the price of a Ford with a Buick.

To be sure, both will take you over the road; both have an engine; both have a top; both have a steering gear; both have a windshield; both have pneumatic tires; both have headlights, etc.

But you ride more comfortably in a Buick; you can make more speed with it; you have more room; you start without having to break your back turning a crank; you

burn more gasoline; your tires cost more, etc.

The two questions in the last analysis that have to be answered by the purchaser before even the beginning of a sale can be started is, "How much, approximately, can you afford to spend, and what service do you expect to get?"

And it is up to the furnace salesman to get the answers to those questions, without actually asking for them if he can avoid it.

When he knows that point he has something to go by; otherwise, he is shooting into the air.

After all, it depends on you, as the man who is doing the selling, as to whether the sale is to be a matter of competition on price or on heating service.

If all you can see in the proposition is "so many pounds of cast iron or steel plate, so many sheets of casing, so many lengths of pipe, so many registers and so many hours of labor,"—

Then it simmers down to a matter of price, and it cannot be anything else.

If on the other hand, you have "sold yourself" on the idea that what you have to offer is an installation that will heat properly every part of the house in all sorts of weather and temperature—

Do not be afraid of quoting your price for a furnace installation, but give the customer to understand that your price is based upon a grade of furnace and a class of work that makes it possible for you to guarantee to heat his house properly.

Then you are selling comfort and convenience and service, and the price fellow is no competitor of yours in any sense, because he will not have a look-in after you have had your say.

And this is not a mere statement.

Hundreds of cases can be cited in positive proof that the installer who bases his selling argument on "Service" and "Satisfaction" wins out against the man whose only argument is that his price is lower.

Here Are Some Good Pointers on Installing and Connecting Warm Air Furnace Pipes.

Simple Rules Are Set Down for Balancing Supply of Cold Air and Delivery of Warm Air.

IN a recent folder issued by the Homer Furnace Company there is much useful information as to the manner of installing and connecting furnace pipes, from which we are glad to quote the following:

Suggestions for Installing Pipe Furnaces:

1. Each warm air pipe should have an upward pitch from the heater of not less than 1 inch per foot.

2. The pitch of all warm air pipes should be alike.

3. All warm air pipes in cellar or basement should be covered with sheet asbestos pipe covering. Not less than 10-pound sheathing is recommended.

4. All warm air risers should be carried up in *inside* partitions, wherever possible.

5. In cases where it is absolutely necessary to carry up warm air risers in outer walls, such risers should be so thoroughly protected as to be *completely insulated*.

6. A separate compartment should be made in the crown or bonnet of the surface for each extra long or winding air pipe, thus insuring a positive supply of warm air to that pipe.

7. *Never use smaller than eight (8) inch pipe.*

8. When warm air pipes are taken out of the top of the bonnet of the heater, the tops of all the elbows should be on a level, so that an equal current of air can fill all the pipes.

NOTE: As a 12-inch elbow is so

much higher than an 8-inch elbow, in order to have both pipes work properly, the top of the 8-inch elbow should be as high as the top of the 12-inch. This applies to all pipes taken from the top of the heater. The same rule applies as nearly as possible where pipes are taken from the side of the bonnet.

9. All warm air pipes should

WIDTH OF ROOM IN FEET.

LENGTH OF ROOM IN FEET.	WIDTH OF ROOM IN FEET.																		
	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
9	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
10	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
11	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
12	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
13	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
14	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
15	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
16	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
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18	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
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21	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
22	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
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24	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
25	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
26	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
27	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
28	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
29	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
30	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8

have dampers close to the heater, so the heat from them can be regulated.

10. In heating a room on the cold side of the house, or a room having a large amount of glass surface, place one register in the floor as near as possible to the furnace

and place a cold air register face in the floor under or near a window and connect this cold air register by means of a separate duct to the bottom of casing, thus removing the cold air out of the room and at the same time providing a flow of warm air into the room.

Directions and Rules for Cold Air Supply.

1. The cold air supply to the heater *must* be adequate.

2. Always bring in the cold air from the coldest side of the house, west, northwest, or north.

3. The cold air openings into the heater should be of equal capacity to all of the warm air pipes.

4. A cold air pit under the heater should never be more than 14 inches deep. A pier in center is desirable to support ash pit where necessary. When more than one air opening, put partition across pit.

5. In connecting cold air box with heater, it is always most desirable to make the connection in the rear of the heater, or by having a cold air pit under the heater.

6. Heaters must have and will have air, and this air should be supplied from the cold air opening at the bottom of the casing. The top of any cold air opening should never be above the level of the grate.

7. The cold air box opening into casing of heater should never be higher than the total height of ash pit and

should enter the heater from the rear to obtain the best results.

8. The size of cold air boxes which supply the heater when taken from a main hall or other room down to the heater, should always have the full capacity of all the pipes combined.

9. All return cold air pipes larger than 12-inch should enter a "receiver" at the base of furnace. Pipes smaller than 12 inches may be fastened directly in the casing without the use of a "receiver."

The table shows the right size of furnace pipes (lower number shows size of pipe for first floor, upper number size of pipe for second floor) to heat rooms of various dimensions, when two sides are exposed, temperature at Register 140 degrees, Room 70 degrees. Outside zero. Room 8 to 17 feet in width assumed to be 9 feet high. Rooms 18 to 20 feet in width assumed to be 10 feet high. For other heights, temperatures or exposures make a suitable allowance. When first-floor pipes are longer than 15 feet, use one size larger than that stated for every 15 feet.

Stock Sizes of Pipe.

Diameter of Round Pipe	Area of Pipe Sq. In.
8.....	50
9.....	64
10.....	78
11.....	95
12.....	113
13.....	132
14.....	154
15.....	176
16.....	201
17.....	227
18.....	254
19.....	283
20.....	314
21.....	346
22.....	380
23.....	415
24.....	452

Using Direct Command Successfully in Furnace Advertising Copy.

The direct command, especially when the command deals with the saving of money, never fails to attract attention. The psychological effect of the direct command is well known in advertising circles and it is employed so extensively from time to time that it needs no further qualification.

In the accompanying ad from the

Council Bluffs Nonpareil the headline is a very good example of the direct command. There are, however, numerous ways of getting away from the close, compact body of reading matter which follows the headline. The ad would have been made much more inviting if two sizes of type had been used to make each paragraph stand out by itself. However, the general practice now is not to enumerate all of the good points of the object, but rather to

STOP WASTING FUEL

WEIR

Moist Warm Air Furnaces

Save tons of coal because every heat unit is extracted from the fuel that they burn.

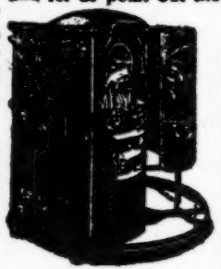
The patented Weir fire pot mixes super-heated air with the fuel gases, consuming all the unburned substance which ordinarily passes up the chimney as smoke and soot.

WEIR heat is healthful heat. The improved water pan gives off sufficient moisture to the air, relieving it of the harshness and dryness which physicians say cause so many of the winter coughs and colds.

WEIRS are gas and soot-tight. No blackened wall paper and ill-smelling homes where they are used. Easier to operate. First cost is last cost.

Come in today and let us point out the WEIR many features. Examine it for yourself. You'll like the way it's built.

We will be glad to give you an estimate of the cost of putting one in your home.



RICE TIN AND FURNACE
WORKS
88 So. Main St.

Advertising Economy.

pick out one outstanding feature in which the object excels its competitors. This practice is believed by experienced advertisers to be superior to practice of putting down all of the obvious features.

When you pin the customer down in this manner you save time by taking away all objections to the product. You agree with the customer that all other furnaces have certain qualities, but that your furnace has in addition one quality which makes it of greater value to the customer than its competitors.

William Johnson, Well Known Peoria Manufacturer of Warm Air Pipes, Passes on at Age of 53 Years.

William Johnson, Treasurer of the Charles Johnson Hardware Company of Peoria for 35 years, died at St. Francis Hospital Saturday, September 29th, following an illness of several weeks' duration. A native of Elmwood, Illinois, and a resident of Peoria County all his life, Mr. Johnson was well known throughout the country as a leading dealer and manufacturer in hardware and furnace pipe and fittings. He had lived in Peoria 37 years.

Mr. Johnson was born August 21, 1870, the son of John H. and Mary Reichart Johnson. May 1, 1901 he was married to Miss Louisa Schmidt in Peoria. Of this union two children survive. They are William C. and Raymond J., both well known in younger business circles of the city. The widow also survives, with three brothers and three sisters all living in Peoria.

The brothers are Charles, Peter A. and John H. Johnson, all well known in the manufacturing field. The sisters are Mrs. Charles Spindler, Miss Mary C. Johnson and Mrs. Charles England.

Funeral services were held from the residence, 311 Henry Street, Monday afternoon at 2 o'clock and from the Trinity Lutheran church at 2:30. Burial was in the Lutheran Cemetery.

Honeywell Heating Specialties Will Be in Full Operation By October Twelfth After Fire.

On Friday morning fire was discovered in the factory of the Honeywell Heating Specialties Company, Wabash, Indiana, but a letter from President M. C. Honeywell states that every department will again be in full operation by October 12th, and that shipments will be delayed only a few days, as very little of the completed appliances was destroyed.

Part of Mr. Honeywell's letter follow:

To AMERICAN ARTISAN:

Sparks from the factory chimney which burned out at 4 a. m. on Octo-

ber 5th, undoubtedly started the conflagration by finding their way into the upper story of the building where inflammable packing materials were stored.

Hourly inspection failed to reveal a fire until 7 a. m. when it was discovered that one end of the fourth floor of the main building was in flames. The night and day shifts were changing at the time the fire was discovered and the full night and day force, together with the City Fire Department, by heroic efforts, kept the flames confined to the fourth floor of the building.

The roof of the main part of the factory was completely destroyed as well as rough stock stored on the fourth floor. More than one hundred men were immediately put to work in clearing away the debris, and by Saturday evening the building was ready for the carpenters, who today are at work replacing the roof and upper floor.

Canvas has been provided to cover the entire building in order to pro-

tect against rain, and each and every department in the factory is expected to be in operation by October 12th.

The loss to stock and building will not exceed \$25,000.00 and is fully covered by insurance. Very little completed stocks were destroyed, and shipments will be delayed only a few days.

M. C. HONEYWELL,
President and General Manager.

Wabash, Indiana, October 18, 1923.

Editor's Note.—We are sure that customers of the Honeywell Heating Specialties Company will make due allowances for the unfortunate circumstances which did for a short time interfere with its policy of prompt shipments. As we go to press, we are informed that Mr. Honeywell's expectations were fully realized and that once again the factory is operating at full capacity, and that shipments are being made at a good rate.

And, of course, we suffer from the soot and smoke and waste that inevitably results. If you hold your candle so the flame is below the tallow, you will have soot and smoke and waste instead of relatively perfect combustion, such as you will have when the candle is held right-side up.

In the big, high-pressure plants, engineers have fully appreciated this principle. They are employing almost everywhere the under-feed stoker because it feeds the coal to the flame in the right way,—from below. However, there are hundreds of thousands of smaller plants, such as all the domestic heating furnaces and boilers, which have to be stoked with a shovel. And you can't shovel coal up through the grate. A shovel cannot be used and deliver the coal any place but on top of the fire. We know this is not right, but we simply cannot avoid doing it that way so long as we have to use a shovel, and no doubt we will go on with this most handy tool for a long time to come.

Large quantities of gases are driven off of the green coal shoveled in on top, by the heat below it. If these gases are not burned they pass off as soot, smoke and CO₂ which is invisible waste. It is variously estimated that this waste amounts to from 40 per cent to 60 per cent of the heat units contained in the coal shoveled in.

It is a mistake, however, to suppose that this imperfect combustion cannot be largely mitigated.

The United States Government experts have made an exhaustive study of the subject. They have laid down the rule that "one-half of the air for combustion should be taken in under the fuel bed and one-half over the fuel bed." It is impossible to take in all of the air necessary for combustion through the grate even if it were forced in. The oxygen in this air is all consumed in the first 4 inches from the grate, so that green coal on top which needs oxygen so badly gets none at all from below.

There are several ways to remedy

Harter Advocates Hot Blast Principle in Operation of Warm Air Furnaces.

Combustion Engineer Maintains That Under Ordinary Methods of Firing Half of Heat Units in Fuel Are Wasted.

"THE usual method of firing a warm air furnace militates against the proper combustion of the fuel," says Lloyd E. Harter in the *Heating and Ventilating Magazine*, going on to say that while this method of placing the coal on top of the fire is not likely to be changed for many years, so far as furnaces are concerned, the remedy lies in the application of the hot blast principle.

Mr. Harter's article follows:

Burning Coal Upside Down.

The open season for smoke abatement and fuel-saving propaganda is here. The press is devoting much space to a discussion of this subject. While it is not precisely a timely topic for the dog days, it is, nevertheless, none too soon at that if anything is to be accomplished during the coming winter.

When we appreciate the way we burn coal it no longer seems strange that we suffer so much from smoke, soot and waste. You wouldn't hold a candle with the wax above the flame and the wick down. Nor would you feed the fuel to the kerosene lamp from the bowl above the flames. Likewise gas fuel comes from beneath to the gas stove burner above. In fact, everything we burn for heat or light, we feed from below. This is the natural, scientific way to consume anything with relatively perfect combustion and control.

But the one great exception to this normal method of feeding fuel is in our burning of coal. Instead of delivering our coal to the fire from below, which is the right way, we shovel it in on top of the fire and the flame, which is the wrong way.

this bad situation. One of the best and most inexpensive ways is to introduce hot air *over* the fuel bed to mix with the rich gases and complete their combustion. Two things are necessary in introducing this "secondary" air. First, it must be hot air—that is, its temperature must equal that of the gases. Second, it must be sprayed out over the

fire in a thin fan-like film so that it thoroughly mixes with the coal gases.

It is plainly to be seen that the mere opening of the so-called "check draft" in the feed door will not help the combustion. It supplies cold air and the air does not mix with the gases. Really it does what its name indicates—checks the fire.

Help! Help!! Can You Furnish the Solution to Miller's Furnace Installation Problem?

This Is a Rather Unusual Situation Which Requires Special Treatment; Let Us Have Your Answer.

HERE is a problem for some of you clever fellows among the warm air furnace fraternity.

The proposition is for a pipe furnace in a house that has no basement, so that the furnace must be placed on the first floor.

And, of course, the rooms on the first floor are to be heated in some way.

is not in the basement, but on the first floor.

Would it be advisable to make the 8-inch opening in the two small pipes, taken off from the two main pipes, in the shape of a "T" offset or a "Y" joint.

If a "T" joint, would any heat get out if the damper in the 12-inch pipe was wide open?

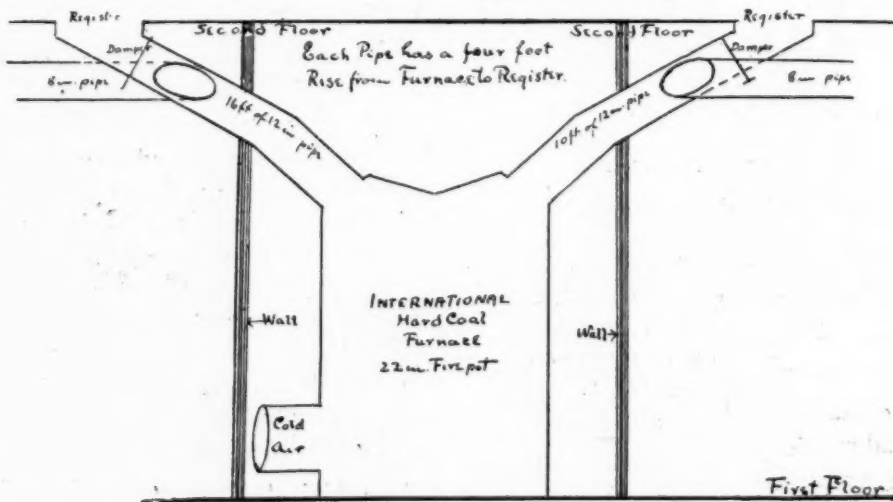


Illustration of Miller's Difficult Heating Problem.

The furnace is located in a special room, walled off entirely from the other part of the first floor.

The following letter and the sketch from L. E. Miller, Goodland, Indiana, gives other data about the job:

TO AMERICAN ARTISAN:

Herewith find sketch showing a furnace installation I have in mind and which I want to complete if practical.

You will note that the furnace

Would it be advisable to place dampers also in the 8-inch pipes?

Yours truly,

L. E. MILLER.

Goodland, Indiana, October 10, 1923.

Our best compensations are not always indicated by money value. Our relationships, associations and civic privileges usually pay the largest dividends. Oh, yes, they cost something, but they pay!

"We Have a Shipment on the Way That Should Be Here Right Quick."

The illustrious and far-famed Kansan, Walt Mason, in his droll-ing manner of writing, can certainly take a good wallop at the store-keeper.

Writing in the *Chicago Daily News*, September 7, 1923, here's what he says about the storekeeper who is always just out; if the shoe fits, put it on:

"The dealer who is always out of things the patron needs is not the hustling sort of scout who in his trade succeeds. I used to go to Bildad's store to buy my kickless kraut, and he would tell me evermore, 'Ah, chee, we are just out! We have a shipment on the way that should be here right quick; meanwhile, we have some splendid hay, and stovewood by the rick.' 'I am not eating stovewood now,' I said, in high disdain; 'and hay, while soothing to my cow, gives me a convex pain. I've patronized your store for years, until I have the blues; for when I ask for roasting ears you try to sell me shoes. I ask for codfish in a jar and you are out of that; you offer me a can of tar, a mousetrap or a hat. You've always shipments on the way, of which you proudly speak, but I would have my kraut today, and not some time next week.' So now I trade with Snide & Snell, who make their business pay; they keep the goods and do not tell of shipments on the way."

No Place for a Knocker in Our Scheme of Life.

Nature has proven so consistently that it abhors a vacuum that one might wonder why an exception has been made in the case of the knocker, or chronic pessimist, who seems to have a most pronounced vacuum in his mental tank. This also includes the scandalmonger, whether of the business or social variety, but it has particular reference at this time to business affairs and in connection with general affairs.

Effectually Advertising A Furnace Repair Service.

Progressive installers in the furnace industry are ever on the alert to wedge themselves into new territory, to expand their business, to increase the size of the circle into which they distribute the line of furnaces they carry.

There is no way so effective for this purpose as advertising in the local newspapers. The advertisement thoughtfully designed and accurately aimed at the target cannot fail to win. The gunner finds it necessary to spend a shot or two to get his range, but having found that, he makes hits successively and without intermission.

The well constructed advertisement is not hard of accomplishment. There is nothing mysterious about

its make up. It comprises a concise, newsy headline, an associated illustration, a few descriptive sentences and the signature of the advertiser. The descriptive sentences are couched in language compelling action favorable to the advertiser.

The accompanying reprinted advertisement of Stortz & Coughlin was taken from the Baraboo, Wisconsin, *Republican*. It is a very good consummation of the four essentials of a good advertisement. The headline is designed especially to attract people who are interested in furnaces and their problems. The illustration is also good. It is the embodiment of an attempt to make use of the combined trade-mark and educational practice.

Good humor is a splendid lubricant for the sales machinery.

Central Sheet Metal Makes Excellent Choice of Words in Its Advertisement.

From the *Battle Creek, Michigan, Journal* we have reprinted an advertisement of the Central Sheet Metal & Roofing Company. Al-



**No Gas
No Dirt**
No Repair Bills
Burns
Soft and Hard
Coal
Coke or Wood
Economical
Guaranteed
Satisfaction

Let Us Tell You About It Before Buying a Furnace

Central Sheet Metal & Roofing Co.
66 South Jefferson Ave.
Bell 599.

Working on an Efficiency Basis.

though not utilizing a large amount of space, the advertisement gets its message across. Just a few words and an illustration. The main difference between a piece of copy of this sort and one in which a large amount of reading matter is inserted is that this advertisement is read and digested in a few seconds, while the catalogue style of advertisement is probably not read at all.

The entire advertisement, including name, address and telephone number, comprises just forty words and still the story is all there, even an appeal for inquiries. So great are the possibilities of making an advertisement tell just what you wish it to in a few words that it is surprising that more time and thought are not given to this phase of the work.

Let Us Have More of Really Attractive Advertising.

Good advertising depends on art, typography, convincing catch lines and a pleasing effect—an oasis in the commonality of surrounding advertising. We have too much of the common kind. Let's have more of the attractive kind.

The more you leave advertising to chance, the less chance there is for advertising success.

Bring Your Heating Problems To Us!

We have made a specialty of warm air heating and will gladly investigate the troubles and furnish you with the information, by which your old furnace can be made right.

In case you are about to have a new furnace installed, it will be well to give us a call and be assured of a first-class, satisfactory job.



We are sole agents for the well known line of GARLAND furnaces and combination ranges. With either of these installations you will be furnished with written guarantee covering not only the construction, but the operating efficiency as well.



STORTZ & COUGHLIN

South Side

Phone 56

Advertising the Furnace Repair Department.

Tapering Elbows Which Are to Correspond with Measurements of Special Nature Can Be Laid Out by Sweep Method.

This Plan Permits Designer to See Definitely Just What He Is Going to Have When Pattern Is Complete.

Written Especially for AMERICAN ARTISAN AND HARDWARE RECORD by O. W. Kothe, Principal, St. Louis Technical Institute, St. Louis, Missouri.

RESPONDING to the inquiry of B. J. Malerich, of International Falls, Minnesota, for a Tapering Elbow, will say the accompanying drawing will satisfy the solution.

There are several methods of approaching such a development, but the writer believes the method outlined serves the purpose better, in that it enables a person to see definitely what he is going to have. It also allows fitting such an elbow in definite measurements; and should the distance X be longer or shorter than Y, proper disposition can be made, so that the elbow will fit in the given measurements.

Procedure in Laying Out Pattern.

The secret of this method is to consider the elbow in the first place as a common straight elbow, where the joints can be made reversible into a straight cylinder. Inside of this, we build our taper elbow, working from center measurements as lines X and Y. This will establish the vertex W, from which the arc a-f is described, and the arc divided to make a 5-piece elbow. Thus: $5 \times 2 = 10$ minus $2 = 8$ spaces for the quadrant.

This is the same as for any ordinary elbow, and we then draw miter lines from W through points b-c-d-e. We then work from the large end of elbow 1-7 and square up lines as 1-A and 7-B. If we wish to see how the elbow will look and the position it takes, we can complete the straight elevation of elbow, as the dotted lines show. Then to fill in the taper, we take the half diameter a-a' and set it as f-a on the base of the large end, and divide the remaining space into five equal parts or as many as we have parts

in the elbow. This is the equalization scale, and with dividers we pick the distances as f-b, f-c, f-d, f-e, and set them as b-b'-b'', c-c'-c'', d-d'-d'', e-e'-e'', which allows drawing the taper lines and will centrally locate the taper in the elbow of the dotted position.

We have here an elbow to fit in a given position to correspond with measurements that may be of a special nature. From this elevation, we then construct our elevation of taper; that is, we straighten out our elbow into a straight pipe, and draw the taper on the inside. So we pick the heel and throat lines from the straight elbow of the dotted position, as B-C and A-D, and set them as A-C' and B-D'; also continue the process and duplicate the pieces as C'-E', D'-F', F'-G', E'-H', G'-J', H'-I'. This allows drawing the miter lines in the straightened out elevation, such as a reversible elbow would have in a similar position. On the inside we draw the taper, measuring off the diameter, as a-a'-a'', and then draw the side lines, extending them to the apex P.

Pattern Swept Out as Shown in Illustration on Opposite Page.

Next, describe the half section for the large base, and divide in any number of equal spaces, as from 1 to 7, and square the lines up to the base 1-7, and from here taper them to the apex P, so as to cut the miter lines as shown. A nail can be driven in the apex P and this facilitates drawing the radial lines, by laying the straightedge up against the nail.

Now, since only the outside lines of the taper are true lengths, and all the inside lines are foreshortened, we, therefore, project lines from

each point in the miter lines to the outside slant lines, as a'-7, which places all of these points in the miter lines in a true length position, and enables sweeping out the pattern. The pattern is then swept out as we show it; and no comment is needed on this procedure, since it is the same as describing a taper joint of pipe, or a flaring pan or funnel. Care must be taken when placing the seams on the sides, as we show them, that the heel and throats have a proper relation in the flat, otherwise it is easy to overlay them in a reverse manner, and because of the slight curvature, the error is sometimes not noticeable.

More Shallow Tapers Are Developed By Triangulation.

It is the best practice to first lay these patterns on a separate piece of paper, and then cut them out on the miter lines; then lay them on the metal, marking them off carefully. Be sure to allow edges, a single edge for one edge and a double edge for the other end to allow for locking. If they are to be riveted, a single edge is allowed on both ends, and the rivet holes are spaced equally along the miter lines we have developed.

Tapers of this proportion can be readily laid out by the sweep method; but where more shallow tapers are met with, there the body of pattern for taper can be developed by triangulation, and the miter line points picked from elevation and set off on similar lines in pattern.

(See Sketch on Opposite Page)

We all have money coming, but it seldom arrives on schedule time.

Ohio Sheet Metal Auxiliary Will Publish Roster November 1.

According to a letter from R. L. Shugg, Secretary of the Jobbers' and Salesmen's Auxiliary to the Ohio Sheet Metal Contractors' Association, a roster of the members of the Auxiliary will be published about November first.

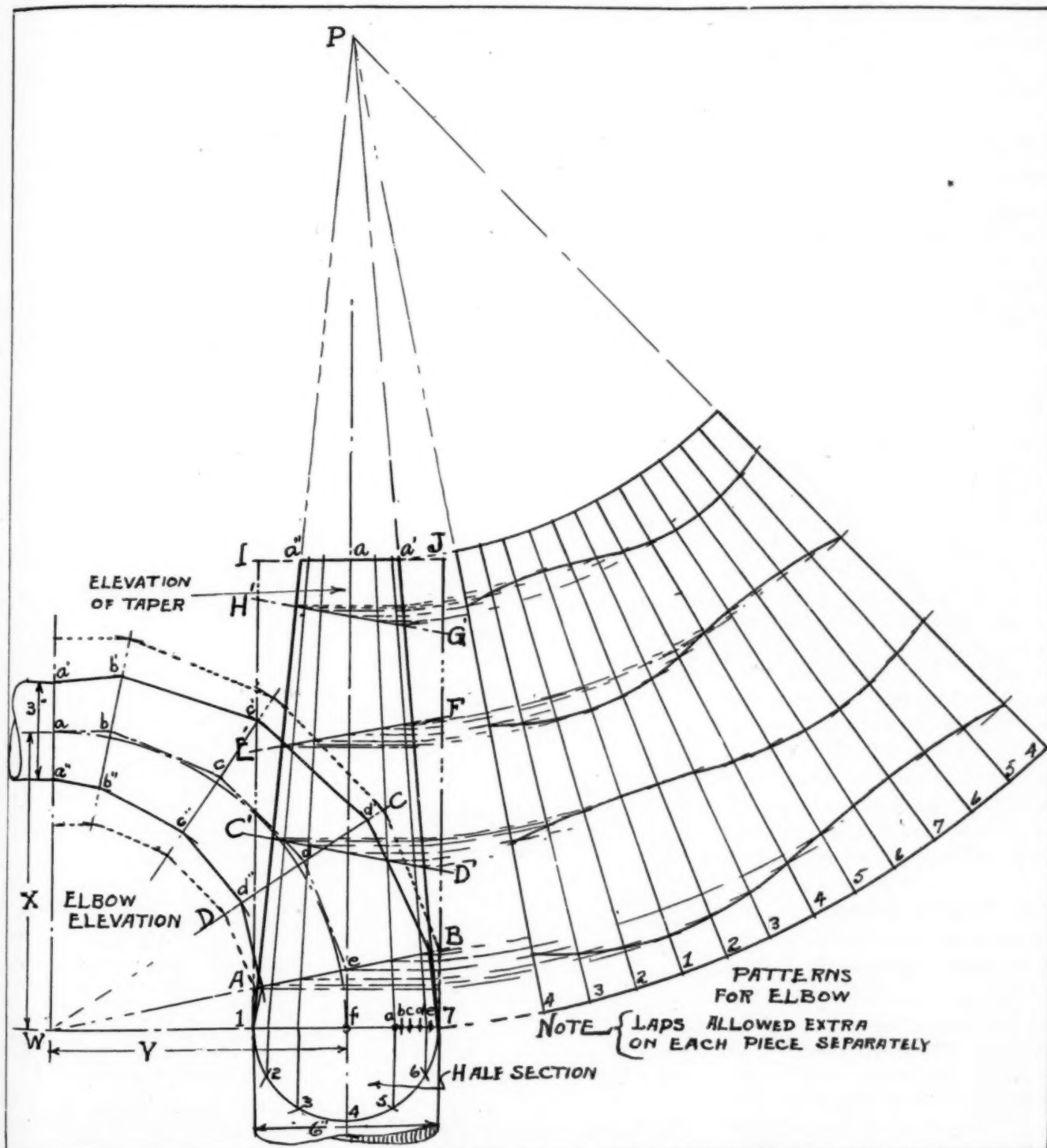
Part of Secretary Shugg's letter follows:

TO AMERICAN ARTISAN:

The Jobbers' and Salesmen's Auxiliary to the Sheet Metal Contractors' Association of Ohio, is an organization of salesmen who call upon the sheet metal, furnace and roofing trade in this state. The dues are \$5 per year, practically all of which is used in assisting the contractors during their annual convention. The officers of this organization have absolutely no salary or ex-

pense allowance and have the full co-operation of the Sheet Metal Contractor's Association.

On or about November first we plan to place in every sheet metal shop in Ohio, a classified roster of the Auxiliary membership, showing the names of the salesmen and the firms they represent, listed according to the products they sell. The Contractors' Association, in appreciation of the work done by the



Working Drawing Shows Pattern for Special Tapering Elbow in Response to Inquiry from B. J. Malerich, International Falls, Minnesota.

Auxiliary, have agreed to place these rosters in the hands of every sheet metal contractor in this state, with the understanding that it will be prominently displayed.

The Salesman's Auxiliary membership at present includes representatives of most of the leading firms who sell material to the sheet metal, furnace and roofing trade in Ohio. We are therefore writing to all jobbers and manufacturers for an expression as to how many members they will enroll in this organization.

R. L. SHUGG.

Cincinnati, Ohio, October 4, 1923.

Callender Says That Soldering Coppers Will Last Indefinitely If Cared for in Proper Manner.

W. V. Callender, who makes soldering equipment, retinning outfits, soldering fluids, etc., says that there is no good reason for filing a soldering copper, and that this practice is wasteful.

He has perfected a chemical and a process for tinning coppers which, he states, is instantaneous in its action; by the action of the chemical the heavy crest and disk is quickly recovered and the copper tinned at the same time.

Some twelve years ago, Mr. Callender invented a soldering fluid which is absolutely dry and contains no water or other moisture, strange as this may sound. He states that laboratory tests show this fluid to be far more economical than any other on the market.

Sheet metal men who may wish further information are requested to write to W. V. Callender, 12 South Jefferson Street, Chicago.

Price Revisions Downward Have Occurred in Some Milwaukee Corrugating Company Products.

There has been a revision downward in the prices on some of the products of the Milwaukee Corrugating Company, Milwaukee, Wisconsin. These price revisions will be found on the pages headed "Current Hardware and Metal Prices" in AMERICAN ARTISAN AND HARDWARE RECORD.

Dickson of Pittsburgh Would Have Built Foster's Advertisement in a Different Way.

Maintains That Material Which May Be All Right in One Place and Absolutely Wrong in Other Places.

ON PAGE 24 of our October 6th issue, an advertisement of the William Foster Products Company was reproduced and comments made on same.

Herewith follows a letter from S. M. Dickson, 915 Behan Street, N. S. Pittsburgh, in which the writer calls attention to and criticizes some of the statements made by the Foster company:

TO AMERICAN ARTISAN:

In your October 6th issue, I noticed the advertisement of William Foster Products Company, and consider it badly arranged. I think most readers will agree with me when I say I have yet to see any large successful firm advertising "Fans and Dust Collecting Systems" in conjunction with copper "wash boiler bottoms and tin repairs." This may be all right for small towns, but I think any architect would smile if presented with one of these telephone book covers, after he had read it.

I have never been in Springfield, Illinois, and am not acquainted with any of the manufacturers in that vicinity; however, I believe it poor policy to knock any or all competitors, as in the following sentence which appeared in the ad: "If your metal work has not been lasting as long as you think it should, this is due to poor material and workmanship."

A majority of sheet metal work purchasers are very poor judges, as to how long product or work should last. If specifications called for No. 28-gauge galvanized steel hanging gutters erected in Pittsburgh, it would not last longer than three years at the most, whether it be erected by William Foster Metal Products Company or any one else, and I am sure the owner would be disappointed and look for some one else with better No. 28-gauge galvanized steel and better workman-

ship, if he would take this kind of advertising too literally.

I am acquainted with some hunters who use guns that would be worth little more than scrap iron, yet get good results; others use latest improved models and get poor results, how come? Poor workmanship and material, but not in the guns.

Using this ad for debate only, and not meaning any offense whatever, I should appreciate hearing the opinion of somebody else on this question.

Yours truly,
S. M. DICKSON.

EDITOR'S NOTE: We are always glad to have our readers and subscribers comment on any article appearing in AMERICAN ARTISAN. Constructive criticism is always helpful.

Manual Arts Press, Peoria, Illinois, Issues Series of Lesson Sheets on "Elementary Electricity"

Practical work in electricity has been rapidly gaining popularity among the boys of the junior high school and the continuation school.

The Manual Arts Press, Peoria, Illinois, has issued the second series of lesson sheets intended to assist the teacher who is desirous of giving really worth while instruction in this subject. The information on each sheet is of such a nature that the student can work out his own problem with the least possible amount of attention from the teacher.

The name of this series is "Elementary Electricity," containing a series of twenty-four lesson sheets and written by George A. Willoughby, Saginaw, Michigan. The sheets are edited by K. G. Smith, State Supervisor of Industrial Education in Michigan.

The price of this set is 45 cents and can be secured through AMERICAN ARTISAN AND HARDWARE RECORD, 620 South Michigan Avenue, Chicago.

Secretary Mooney Urges Ohio Sheet Metal Contractors to Vote for Compensation Amendment.

In the following letter, sent to the Secretaries of the Locals of the Ohio Sheet Metal Contractors' Association, State Secretary George F. Mooney urges them to work for the approval of the amendment to the state constitution which provides a more equitable method for paying compensation for accidents to employees. This amendment is to be voted upon at the coming election in November:

DEAR MR. SECRETARY:

By the courtesy of the Ohio Manufacturers' Association, we are enabled to send you a printed copy of a bulletin written by their secretary, Mr. Jennings, for their membership.

This bulletin is a complete and thorough elucidation of the proposed amendment to the constitution of Ohio, to eliminate the so-called open liability in connection with "Workmen's Compensation."

We would suggest that you familiarize yourself with the subject and call your members together frequently for the study of the subject and to make the necessary preparation for the sheet metal contractor discharging his duty to himself and to industry at large by contributing his share of the effort necessary for the adoption of this amendment.

This will be a fine opportunity, made by necessity, to inculcate the practice and habit of coöperation or collective self-defense.

There will be two other proposed amendments on the ballot. Article 5, Section 1, merely removes the words "male-white" from our fundamental law and makes it conform to the fifteenth and nineteenth amendments to the Federal Constitution. Article 2, Section 1-G authorizes the Secretary of State to advertise proposed amendments in county newspapers and would probably result in a saving of money and accomplish equal results.

Advises Against Old Age Pension Bill.

The "Old Age Pension" bill as an initiated bill will be on the ballot this fall and if approved by a majority of the voters, voting on the subject, will become a law. It provides a pension of \$350.00 per year for men and women over sixty-five years of age and having an income of less than \$350.00 per year and owning property valued at less than \$2,500.00. It creates another army of officials throughout the counties and state and will probably cost thirty million dollars the first year; it will increase each year for many years. The cost is to be paid out of general revenues and new taxes will be levied in a sum

greater than the entire amount levied at present.

Its demoralizing influence will be very extensive. It probably will place a premium on shiftlessness and waste and strike a deadly blow at thrift and economy. It was drafted by "The Society for Labor Legislation" and sponsored in Ohio by the Ohio Federation of Labor and the Order of Eagles. It is being opposed by all of the Farm organizations and Employers' Associations.

Two referred measures, also, will be on the ballot. The Taft bill is to give relief to cities. The old Smith one per cent law has been amended so often that there is nothing left of it but the limitations which have been so embarrassing to cities. This bill authorizes an increased levy and gives cities representation on budget commissions, that have heretofore gobbled an unfair division of taxes for school boards, counties and townships. This is not a perfect solution of our muddled tax problems, but was the best that could be had at the time and if it fails at the polls we will, indeed, be muddled up; the referendum will delay its operation until January, 1924.

The Allbaugh bill does away with our present elected tax assessors and substitutes the old county taxing boards.

The above brief suggestions are conscientiously offered, not necessarily as advice, but to call your attention to the important legislation affecting the sheet metal contractors.

We are enclosing a sheet in blank which we request you to fill out and return promptly so the information collected can be disseminated before it is obsolete. If it has no other value it will help us learn to coöperate, without which an association is ineffective.

Very sincerely yours,

GEORGE F. MOONEY,

Secretary.

Columbus, Ohio, October 4, 1923.

Copies of the bulletins referred to—Numbers 24 and 26 Series G—may be obtained by any sheet metal contractor by writing to Secretary George F. Mooney, 213 First National Bank Building, Columbus, Ohio.

The report blank to which reference is made requests the following information:

Sheet Metal Contractors' Association of Ohio.

Report of local conditions for month of, 1923.

Condition of business, good, fair, poor.

Prevailing wage rates:

Mechanics:

Helpers:

Average number of men employed:

Is supply of help, short, excess or normal:

Open or closed shop:

Prevailing hours per day:

Is there any labor trouble? If so give particulars on back of this sheet.

Signed.....

Return report as soon as practicable.

Here's a Mistress Sheet Metal Contractor. Do You Know of Any Others?

So far as we know, there are no sheet metal contractors of the female species who are members of the National Association, and so far as we know, there is only one in Cincinnati, Ohio, but she has worked at the trade for over forty years and has for some years ably



Mrs. Catherine Fellers, Who Has Been an Active Sheet Metal Worker and Contractor Over Forty Years.

conducted the business established by her late husband.

Her name is Mrs. Catherine Fellers.

Today she is 65 and the accompanying photograph shows her in working togs ready for the day's task.

Mrs. Fellers first started in the sheet metal business as a helper to her husband. After his death she kept on with the work and is still on the job.

Her biggest single work was on the St. Peter's Cathedral in Cincinnati.

Mrs. Fellers hasn't any college degrees, but she is a past master of her profession. She is doing a man's work and her reward has come through the appreciation of her ability by the people of Cincinnati.

The picture is reproduced through the courtesy of *The Pure Iron Era*.

Harrington & King Perforating Company Issues Folder Showing New Location of Their Factory.

The Harrington & King Perforating Company which has recently completed the construction of a new modern equipped factory at 5655 Fillmore Street, Chicago, has issued a folder in which the new location is indicated by a map of Southwest portion of Chicago and showing how to get there by elevated and surface lines as well as by automobile. Additional equipment has been installed to care for the increasing business of the Company.

New Ventilator and Skylight Made by Messenger & Parks, Aurora, Illinois.

The city, state and even the national governments have, with the last decade and a half, interested themselves very much with the conditions under which people work.

Light and ventilation has certainly become an important subject in

The company says that the new ventilator and skylight is especially designed to quickly clear any shop or workroom from fumes and undesirable gases. It is made in many different styles and is readily adaptable to any building. It is raised and lowered by hand.

Complete information can be secured by writing for catalogs and prices.

Watch Your Old Sweeping Compound and Avoid Preventable Fires.

Watch the sweeping compound after it has been used on your premises. Too frequently the porter or others get the habit of sweeping this compound and the floor sweepings, which often includes matches, cigarette and cigar stubs, waste paper and other inflammable material, into a corner or basement unnoticed by you, and may cause a fire at any time. Sometimes spontaneous combustion does the work in this kind of accumulation; we have in mind at this time two fires originating from that very cause, one entailing a loss of \$65,000. "A stitch in time" is old advice, but none the less valuable in cases like this. Save your "nine" by insisting that this practice, if indulged in at all on your premises, be discontinued at once. "Just swept there for the time being because he did not have time to



New Ventilator and Skylight of Messenger & Parks, Aurora.

almost every instance where "capital" and "labor" have come into conflict.

The Messenger & Parks Manufacturing Company, Aurora, Illinois, has put out a new skylight and ventilator combined. The new product is called the Venta-Light, and a good idea of its description can be gained by referring to the accompanying illustration.

pick it up" is an excuse for its existence often given. Better take time while it is possible, keeping in mind the fact that fire and destruction wait no man's time. They take their own, and that is often at the least opportunity temporarily given. At no time, under no circumstances, should a fire hazard be tolerated if you would be on the side of safety and conservation.

Sumner Defines Coöperative Advertising.

The following definition of coöperative advertising by G. Lynn Sumner, Advertising Counsel for the International Correspondence Schools, will give you something over which to ponder:

"Coöperative advertising, in a nutshell, means simply this—no matter what you are selling, your greatest sales resistance is due not to competition in your own field, but to lack of appreciation on the part of the public of the goods that both you and your competitor have to sell. Join hands with your competitor in educating your public and by force of your combined effort you create increased demand, broaden your market, make selling easier, and make not merely two, but three or four buyers grow where the one you fought over grew before."

A Man Who Is "Broke" Is Also a Poor Subject for Credit.

Some of the farmer's self-appointed friends are not helping his case by advertising him as a bankrupt. Their attitude lacks consistency. They claim that the farmers need more credit and cheaper credit, and at the same time proclaim that the future recipients of this credit have already "gone broke." A business man who followed such tactics when he approached his banker for a loan would surely walk out of the bank as empty-handed as when he entered.

Notes and Queries

Wire Straightener.

From E. W. Hackney, Bridgeport, Nebraska.

Can you tell me who makes a wire straightener for No. 9 galvanized wire.

Ans.—Worthington Pump and Machinery Corporation, 37 West Van Buren Street, Chicago, Illinois.

Roofing Slate.

From Stortz and Coughlin, Baraboo, Wisconsin.

Please advise us who makes roofing slate.

Ans.—Rising and Nelson Slate Company, 2554 West Harrison Street and Beckman-Dawson Roofing Company, 111 West Jackson Boulevard, both of Chicago, Illinois.

Address of Allen Manufacturing Company.

From Stove Dealers' Supply Company, 310 Chestnut Street, Milwaukee, Wisconsin.

Can you furnish us with the address of the Allen Manufacturing Company?

Ans.—Nashville, Tennessee.

Repairs for "Bay State" Furnace.

From William Fiebrantz, 619 E. N. Grand Avenue, Springfield, Illinois.

I should like to know where to get grate bars for the Bay State furnace.

Ans.—Northwestern Stove Repair Company, 20 West Lake Street, Chicago, Illinois.

Repairs for "Richmond Superior No. 300."

From Clark Hardware Company, Winnetka, Minnesota.

Is the Richmond Stove Company, Norwich, Connecticut, still in business? Where can I get repairs for their "Richmond Superior No. 300" furnace?

Ans.—Their patterns were taken over by the Barstow Stove Company, Providence, Rhode Island, from whom you can secure repairs.

Address of Victor Stove Company.

From Stove Dealers Supply Company, 310 Chestnut Street, Milwaukee, Wisconsin.

Kindly tell us where the Victor Stove Company is located.

Ans.—Salem, Ohio.

"Okite" Cleaning Solution.

From R. M. Jacobs, 2521 West Jackson Boulevard, Chicago, Illinois.

Where, in Chicago, can I buy "Okite" cleaning solution?

Ans.—From the manufacturers, Oakley Chemical Company, 333 South Dearborn Street.

Oil Burners for Furnaces.

From F. S. Quinn, Logan, Illinois.

Can you tell me who makes oil burners for use in warm air furnaces.

Ans.—Aetna Automatic Oil Burner, Incorporated, Providence, Rhode Island; American Oil Burner and Boiler Manufacturing Company, 3830 North Kilbourn Avenue, Chicago, Illinois; Gill Manufacturing Company, 8300 South Chicago Ave-

nue, Chicago, Illinois; Home Appliance Corporation, 2818 Locust Street, St. Louis, Missouri; Oliver Oil-Gas Burner Company, St. Louis, Missouri; Tiffany Oil Burner Company, 200 Broadway, Paterson, New Jersey; Wade-Hill Company, 2030 Pine Street, St. Louis, Missouri; Automatic Burner Corporation, 312 North May Street, Chicago, Illinois, and Edwin B. Tibb Oil Burner Company, 464 Parkside Avenue, Chicago, Illinois.

Address of U. S. Heater Company.

From Stove Dealers Supply Company, 310 Chestnut Street, Milwaukee, Wisconsin.

Can you furnish us with the address of the U. S. Heater Company, or their successors.

Ans.—U. S. Radiator Corporation, 500 North Dearborn Street, Chicago, Illinois.

"Tyree" Automobile Radiator Cores.

From R. M. Jacobs, 2521 West Jackson Boulevard, Chicago, Illinois.

Who handles the Chicago agency for the "Tyree" automobile radiator cores?

Ans.—Tyree Auto Radiator Company, 1500 West 15th Street, Chicago, Illinois.

"Dangler" Oil Stoves.

From C. R. Oberholtzer, 509 West Maumee Street, Angola, Indiana.

Will you please advise me who makes the "Dangler" oil stoves.

Ans.—The Dangler Stove Company, Division American Stove Company, Cleveland, Ohio.

Scrap Brass and Copper.

From W. M. Schobinger, Shullsburg, Wisconsin.

Kindly inform me who buys scrap brass and copper.

Ans.—S. Birkenstein and Sons, Incorporated, 1050 West North Avenue; Abbott Iron and Metal Company, 1338 West 21st Street; Alton Iron and Metal Company, 2122 South Loomis Street; Argo Iron and Metal Company, 1640 Elston Avenue, and Down Town Iron and Metal Company, 1251 South State Street; all of Chicago, Illinois.

"World's Best" Furnace.

From Rademacher and Kirkeby, Shakopee, Minnesota.

Can you tell me who makes the "World's Best" furnace? I desire to secure repairs for it.

Ans.—This is the old trade-mark of the Michigan Stove Company, Adair and Jefferson Streets, Detroit, Michigan, and, no doubt, they can furnish repairs for it.

"Clark Jewel" Gas Range.

From William I. Le Duc, 2243 Sheridan, Detroit, Michigan.

Will you kindly advise me who manufactures the "Clark Jewel" gas range.

Ans.—George M. Clark and Company, Division American Stove Company, 179 North Michigan Avenue, Chicago, Illinois.

"Star" Ventilators.

From Cicero-Chicago Corrugating Company, 1542 South 51st Court, Cicero, Illinois.

Where can we get the "star" ventilators?

Ans.—From the manufacturers, Merchant and Evans Company, 347 North Sheldon Street, Chicago, Illinois.

"McKinnon Dash" Automobile Radiator Cores.

From R. M. Jacobs, 2521 West Jackson Boulevard, Chicago, Illinois.

Can you tell me who handles the Chicago agency for "McKinnon Dash" radiator cores?

Ans.—Dettman and Robinson, 2409 Wabash Avenue, Chicago.

Repairs for John Davis Company Boiler.

From John D. Morrell, Topeka, Indiana.

Where can I get repairs for a house heating hot water boiler bearing the name "John Davis Company, Chicago."

Ans.—Northwestern Stove Repair Company, 20 West Lake Street, Chicago, Illinois.

Furnace with Ash Sifter in Ashpit.

From a Subscriber.

Who makes a furnace that has an ash sifter in ashpit?

Ans.—Buck's Stove and Range Company, 3500 North 2nd Street, St. Louis, Missouri.

Elbows for Blow Pipe Work.

From George A. Rhenisch, 221 East Court Street, Sidney, Ohio.

I should like to know who makes elbows with large radius for use in dust pipe work.

Ans.—Berger Brothers Company, 237 Arch Street, Philadelphia, Pennsylvania; Merchant and Evans Company, Philadelphia, Pennsylvania, and F. Meyer and Brother Company, Peoria, Illinois.

Moving Objects Attract Attention to Great Falls, Montana, Sporting Goods Display.

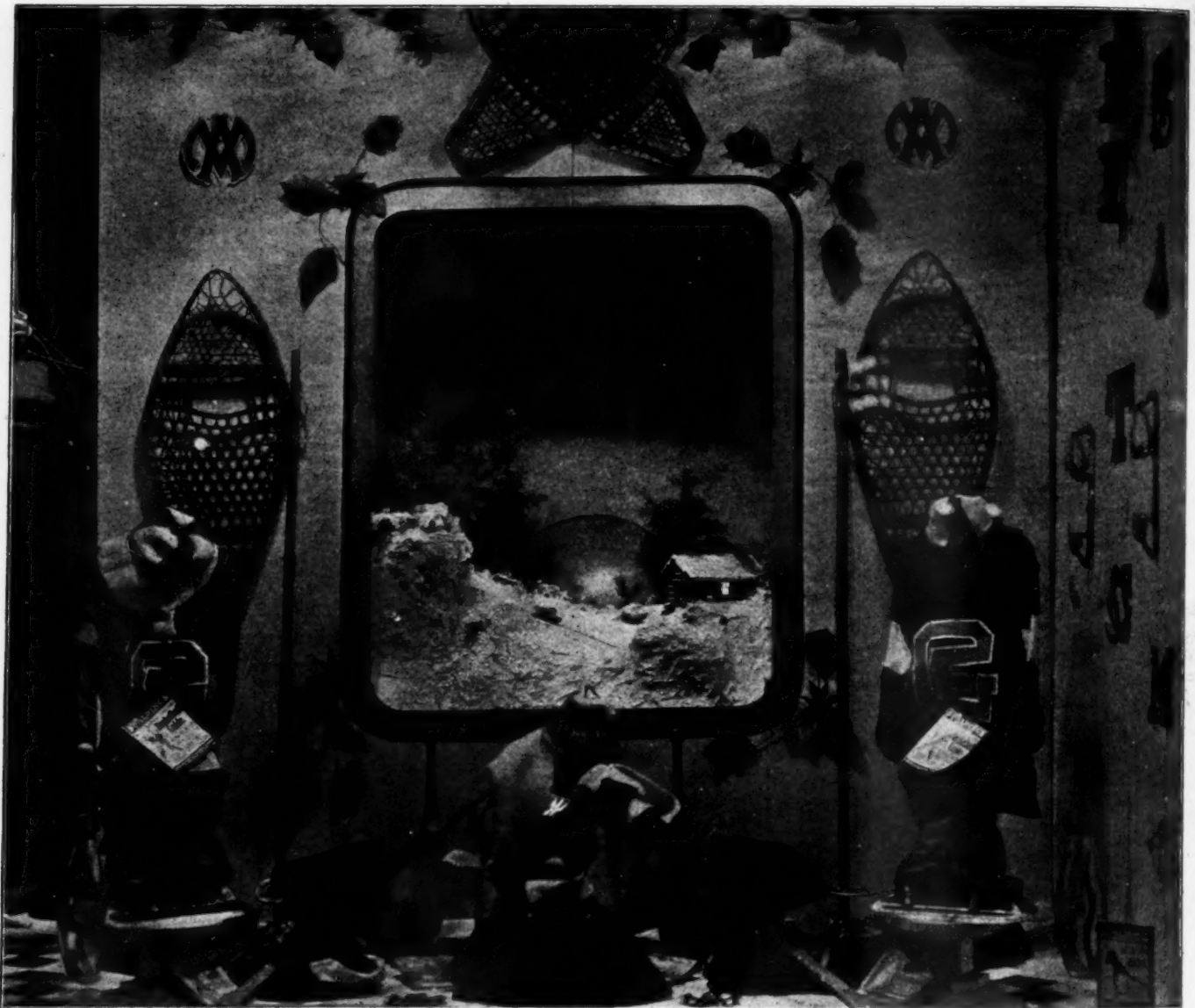
Small Figures on Motor-Driven Endless Belt Make Coasters' Scene Realistic.

THE approaching winter has its good as well as disagreeable features. The youth looks rather to the sports than to the stinging

action to attract attention.

In this display the sides and back are of white beaver board, the scene in the center background being the

the windows. The large moon rising over the hill is also made of orange-red paper, both the cabin windows and the moon being illumi-



Sporting Goods Window Display Arranged by M. G. Cottier for the Murphy-Maclay Hardware Company, Great Falls, Montana. Moving Objects Attract Attention.

and frost-bitten nose and ears; to the delightful days spent coasting, skating or building snowmen.

The accompanying window display, arranged by M. G. Cottier for the Murphy-Maclay Hardware Company, Great Falls, Montana, is an excellent example introducing

chief appeal to the interest of the passer-by.

This scene is built back some two feet from the main window back, the hill and slide being made up of plaster paris, sprinkled with artificial snow. The cabin is built of tiny logs, with light red paper over

nated from the back by electric light.

The small evergreens in the scene are branches of pine set in the plaster paris while still soft, and the light snowfall is sprayed on the dark blue background.

While this scene itself is very

catching, the outstanding items of interest are the sliding figures. These are tiny figures fastened to sleds, which were glued to an endless belt which runs around 6-inch pulleys concealed beneath the hill. When this is driven by a small motor, the figures appear to come from behind the hill at the left and disappear behind that on the right.

The attention that this window was given made it possible to bring the line of winter sporting goods before a large number of people.

It's the Unusual, the Uncommon Things That Attract Attention.

In window display advertising as in other forms, it is the unusual, the uncommon things that attract the eye.

While riding home in one of Chicago's North Side 'busses the other night, my eye was attracted to a small card in one of the panels of the coach. This card carried the name and address of a dealer in Oriental rugs. In the lower left-hand corner of the card there appeared a small sample of the rug advertised.

Now, this bit of rug was something out of the ordinary and it attracted the attention of every passenger in the coach. People sitting within ear shot of me could be heard discussing their preferences in rugs. One person said: "See how thick the nap is and how well it stands up." This proves how the unusual thing can start a train of thought in the mind of the observer. After that it is up to the window trimmer to make that train of thought favorable to the advertiser's products.

AMERICAN ARTISAN AND HARDWARE RECORD has already done a great deal in awakening interest in better window displays. We are offering \$100 in cash prizes for the best window display sent in between now and January 12, 1924.

The first prize is \$50; second prize \$25; third prize, \$15; fourth prize, \$10.

We want all of the embryo window trimmers and others to get in

on this competition. Think up some original ideas for a display, then get the boss to approve it and put it on and enter it in our window display competition. This means you!

Rules Governing Contest.

The photograph, together with descriptions of how the window displays were arranged and the materials used may be sent by mail or express, charges prepaid, and must reach this office not later than January 12, 1924.

Each photograph and description must be signed by a fictitious name or device and the same name or device must be placed within a sealed envelope containing the real name and address of the contestant. This sealed envelope is to be enclosed with the photograph. Contestants may enter as many window displays as they desire.

AMERICAN ARTISAN AND HARDWARE RECORD reserves the right to publish all photographs and descriptions submitted in this competition.

A competition committee of three will be appointed, one of whom will be an expert window dresser and one an experienced hardware man. This committee will pass upon the merits of all photographs and descriptions received, without knowing the names or addresses of the senders, and will decide the winners of the contest.

Advertising Clubs of the World Endorse Neosho Club Plan.

The so-called Neosho Club Plan which was first put into action by the business men of Neosho, Missouri, has been endorsed several times by the Associated Advertising Clubs of the World, but it has been found advisable by the directors of that body to state specifically that the Neosho Club Plan should be conducted by a special body, whose only activities should concern themselves with that Plan and which should not in any sense take the place of the usual body of commercial interests. The statement follows:

So that there may be no doubt as to the policy of the Associated Advertising Clubs concerning hav-

ing Neosho Clubs take the place of existing commercial organizations, we take this occasion to iterate the statement that it is a well founded policy to organize Neosho Plan Clubs in close unity with existing commercial bodies. In cases where cities do have such organizations already, great care is taken to see that those who go into the Neosho Plan Club do not get the impression that it is desirable that it should take the place of the other commercial body. As a matter of fact, while some of the Neosho Clubs do serve all practical effects as Chambers of Commerce, in the sense that they are the one existing commercial organization and the only medium for such expressions on the part of business men, they are not primarily designed for such service.

Death Takes Secretary Potter of E. C. Atkins & Company.

Merritt A. Potter, Secretary of E. C. Atkins & Company, Indianapolis, died September 25th in his sixty-eighth year at the Methodist Episcopal Hospital, Indianapolis, after a long sickness. He had been prominent in the business and civic life of Indianapolis more than forty years.

Mr. Potter was born Aug. 1, 1855, at Clarkston, Michigan, the son of the Reverend Aaron Potter, a Baptist minister, and Frances Augusta Potter. He attended the University of Illinois, and came to Indianapolis in 1874. Four years later he became connected with E. C. Atkins & Company, and in 1885, when that company, which had been a partnership, was incorporated, he was one of the incorporators as Treasurer of the company. He had been the only surviving incorporator since the death of E. C. Atkins in 1901. He was Treasurer of the company until 1911, when he was elected Secretary, and held that position at the time of his death.

The following men were honorary pallbearers: A. A. Barnes, C. S. Dearborn, H. C. Atkins, N. A. Gladding, Fred C. Gardner, Albert G. Snider, Henry A. Osborne Speers,

Henry Eitel, Jesse C. Moore, James Berryhill, James W. Noel, Dr. Joel Whittaker, William E. Day, Arthur T. Moore, Sinclair Perry, Elias C. Atkins and E. H. Darrach.

Pressure Insufficient to Create Consumer Demand for Paint, Says E. T. Trigg.

Ernest T. Trigg, Chairman of the Save the Surface Campaign, recently made a statement concerning the business outlook in the paint trade. Mr. Trigg's remarks are as follows:

"Paint and varnish sales by manufacturers to distributors have been very satisfactory, on an average, up to June—roughly estimated in volume to be an increase of 30 per cent for the first five months of 1923 over the same period in 1922. The reports indicate, however, that the sale of these stocks to the consuming public has had a big drop in June and July. Some important producers who reported unusual sales during the first five months state that their June business not only failed to hold up, but was even less than June, 1922.

"This would indicate that the paint industry—producers and their salesmen, the jobbers and the distributors—had accepted the plans of the industry for doubling the business, and were prepared to take care of an increasing consumer demand. The failure on the part of the public to take the stocks indicates insufficient pressure to create this consumer demand. We have not backed up our desire for greater business with sufficient funds, through coöperative advertising.

"While the slump in building construction has been marked, the demand on the part of the public for paint and varnish stocks on the dealers' shelves cannot be attributed to any large extent to this.

"The activities of the Save the Surface Campaign this fall are directed toward lengthening the painting season for two reasons: First, because it gives the individual producer, as well as the distributor, an opportunity and reason for exert-

ing greater pressure on the consumer; secondly, the dull season sales drives to be conducted in many cities as a part of the campaign to lengthen the painting season, if properly pushed, will do much toward maintaining consumer demand during the coming dull winter months.

"Last year \$49,000 was expended by the local paint trade in coöperative sales effort. It is imperative that every manufacturer instruct

his salesmen and his advertising department to encourage local distributors, the retailers and the painters, to coöperate with these dull season sales drives.

"Manufacturers and jobbers should support this effort to 'get rid of the dull seasons, November, December, January and February,' on the part of the local paint trade—not with contributions, but through coöperation of salesmen and other ways."

The New Baby Is One of the Best Prospects by Which Sales of Enameled Ware Can Be Increased

Alden D. Groff Tells How Department Stores Cater to This Particular Class of Trade.

THE hand that rocks the cradle may be the hand that rules the world, but it is the baby in the cradle that tells the hand what to do. Women may do most of the buying, but they never buy so much or so liberally as when it is for a child. Every baby makes a big change in the household habits of its family when it arrives—and changes in household habits mean hardware sales. And nothing is too good for the heir or the heiress of the family.

The hardware and housefurnishings store has not begun to realize the possibilities in the infants' and children's trade. Of course some have done big business in toys; but very few have gone after the even bigger business in the housefurnishing needs of the new born baby and the young child. Other lines have been more foresighted than the housewares men and have cashed in. Tremendously profitable businesses have been built up in specialty stores for babies' and children's clothing, and children's departments are big attractions in many types of stores. Think of all the clothing, textiles and drug store supplies being sold every year for "layettes." Why not the "housewares layette"?

Babies are not what they used to be. Mothers are not what they used to be. They refer to Dr. Holt's book as if it were a kind of Bible—the womens' magazines are full of

articles for the mother and the mother-to-be. There are articles on dress, food, sleep, play, education, comfort—and they all mean things to be bought. And the hardware store is carrying a great many of these—but not pushing them in the right way—and should be carrying a great many more. You may say that you were brought up without your mother knowing anything about vitamins and look at you now—but the present day mothers do know about vitamins, so they buy from you meat choppers and orange squeezers and enameled ware double boilers so as to make sure their babies get those vitamins.

The baby's food differs from that of the rest of the family, so different cooking utensils are needed. Many women buy new enameled ware cooking utensils when the baby is born, and many more could be educated to do so. Baby's clothes have to be washed separately, so there are calls for electric irons and clothes horses. Baby's needs are many—bathroom appliances, electric appliances, playthings. Many homes never possess furnishings which they should have until the child comes into them. Look around your store today and see how many sales are directly or indirectly influenced by the addition of children to the family. Make out a list and you will be surprised at the number and

variety of items. You'll be convinced that your best customers are those families which have young children—particularly where there are new babies.

Take the case of enameled ware utensils. Aside from the cooking vessels which many mothers like to buy especially for the baby's food, although they may already have some in the kitchen, there are a number of items in enameled ware

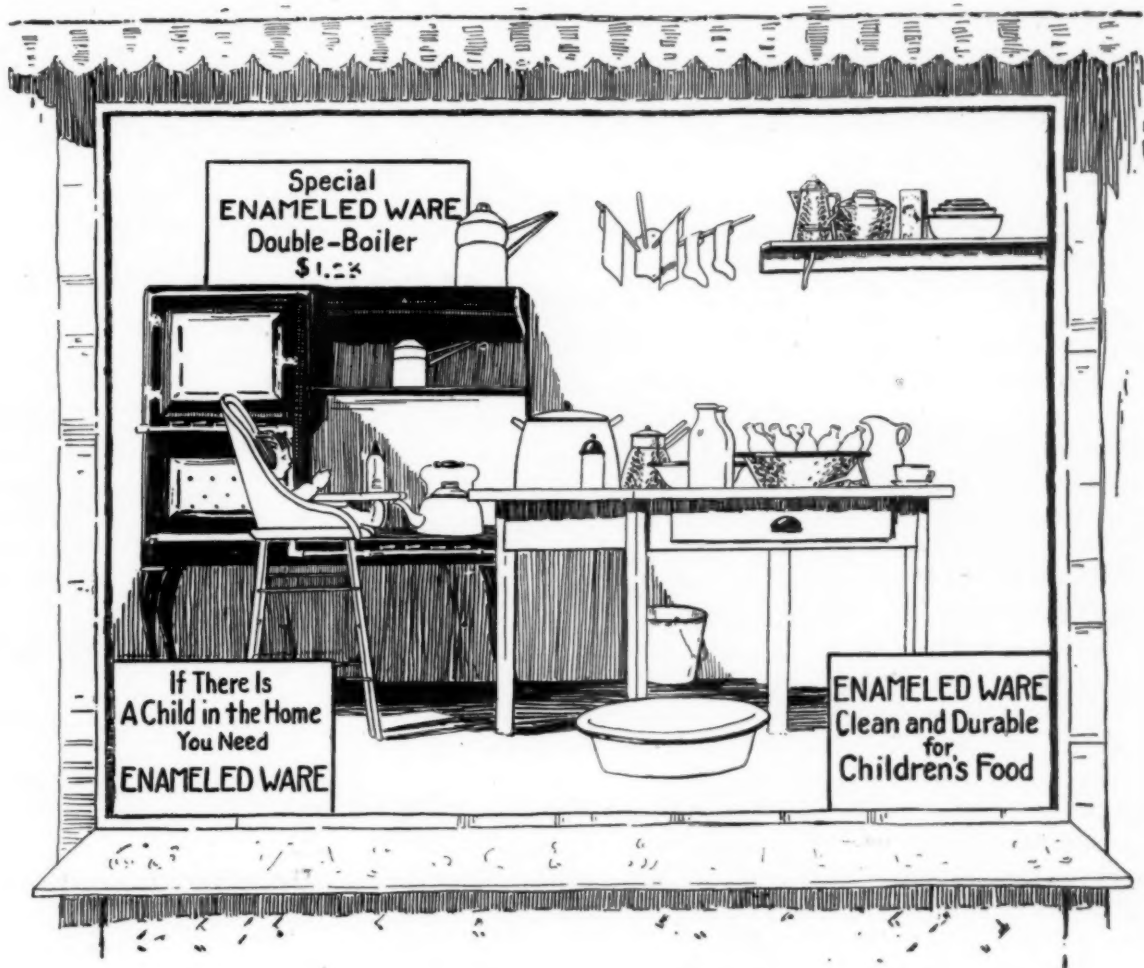
List B—Enameled Ware for Older Children—Cups and saucers, mugs, soup plate, pie plate, compartment dinner plate, colander (for draining vegetables and mashing through), strainer, dipper (for taking out special portions), skimmer, oblong vegetable dish, milk kettle, pudding mould, pudding pan, egg pan, tea kettle inset.

For sanitary purposes there are the combinet, irrigator, etc.

lamp, flashlights, etc., are very popular with parents of young children.

List D—Other Items Used in Connection with the Care of Older Children—Orange squeezer, cutlery and silverware, meat juice extractor, meat chopper, vegetable dicer, toaster, etc., as well as toys of all kinds.

From these lists some very attractive combinations can be selected and perhaps specially priced at a



Suggestion for Window Display of Enameled Ware for Infants.

which are particularly useful. For instance:

List A—Enameled Ware for Infants—Double boiler (for milk or cereal), dishpan or sterilizer (for sterilizing nursing bottles), graduated cup, funnel, covered cups and bowls (for holding boric acid solution, etc.), feeding cup, tray, baby bath, water pitcher, soap dish, large pail or "odorless pail" (for soiled clothes) and small pail (for waste). The practice now is to encourage the use of the chamber at a very early age.

List C—Other Items Used in Connection with the Care of Infants—Scales, wooden clothes horse or wall drying rack, wire bottle holder, bottle brush, clothes hangers, enameled table top, oil cloth, medicine chest. Many families put in new window screens to protect the baby when they would continue to get along otherwise. Many begin to use a lot of white paint around the house. Electrical appliances like a small electric iron, an electric radiant heater, an electric bottle warmer or immersion heater, small night

round figure. For instance, from lists A and B a kind of "housewares layette" could be made up to sell at such prices as \$2.50, \$5, \$10, \$25, etc. Not only would these be real multipliers of sales, but the suggestions of the lists would really be appreciated by the inexperienced mother.

In connection with these combination sales it is a good idea to offer a little gift to every woman who buys an outfit—say a silver feeding spoon—"with the compliments and best wishes" of the store. Little

attentions like these are much appreciated by proud mothers.

There is no reason, of course, why such special offers should be limited to any particular season—they might be standing offers. The advertising of them should also be continuous. Once a month, at the beginning, for instance, a small newspaper advertisement could be used offering these specially priced outfits and gifts to all babies born during the month. Also in all ads there might be inserted a line reading, "Remember our special gift offer to all babies born this month."

Circulars and special letters are, of course, particularly effective in getting this business. A good live mailing list can be made from the birth notices in the newspapers, which should be followed closely. A series of two or three letters, with dainty, attractive circulars, would be effective. Of course, any woman who comes into a store where there are women clerks to buy things which are obviously to be used for an expected baby is a good prospect. The sales girl should mention the gift and the special outfit to her tactfully.

A good window display is of particular value—babies are a subject of universal interest, and a display of housewares devoted to the baby will appeal to everyone and will bring your goods before customers in the most interesting way. Remember that a window display or an ad at any given time will make a timely and direct appeal to three-quarters of the mothers of all the babies to be born during the year.

There is another very important reason why special effort should be made to get this trade—aside from its own profits. To a mother the most important thing is her baby. A store which sells a mother an article used in connection with the care of her children has the confidence of that woman. And such confidence is the firmest foundation for the growth of any business.

It's poor economy to let your business system break down your physical.

Governors of Hardware Club of Chicago Elect Officers for 1924.

The Board of Governors of the Hardware Club of Chicago met in the club rooms, 11th floor of the State-Lake Building, on Thursday, October 11th, at which time the following officers were elected:

President—A. Vere Martin, re-elected.

Vice-president—George A. Beaudin.

Treasurer—William Kennedy.

Secretary—A. G. Pedersen, re-elected.

The following committee on membership was appointed:

George A. Beaudin, chairman; Ned Swift, Frank Koch, Gus Ruhling and John Gordon.

Coming Conventions

Automobile Accessories Branch National Hardware Association, Hotel Shelburne, Atlantic City, New Jersey, October 15 to 19.

The National Hardware Association and the American Hardware Manufacturers' Association, Atlantic City, New Jersey, October 16, 17, 18 and 19. F. D. Mitchell, 1819 Broadway, New York, is Secretary and Treasurer of the Manufacturers; T. J. Fernley, Secretary of Jobbers.

National Federation of Implement Dealers' Association, at Hotel Sherman, Chicago, October 17, 18 and 19, 1923. H. J. Hodge, Secretary, Abilene, Kansas.

Western Retail Implement and Hardware Association, Missouri Theater Building, Kansas City, January 15, 16, 17, 1924. H. J. Hodge, Secretary-Treasurer, Abilene, Kansas.

The West Virginia Retail Hardware Association Convention and Exhibit, Huntington, West Virginia, January 15 to 18, 1924. James B. Carson, Secretary-Treasurer, 1001 Schwind Building, Dayton, Ohio.

Mountain States Hardware and Implement Association Convention, City Auditorium, Denver, Colorado, January 22-24, 1924. W. W. McAlister, Secretary-Treasurer, Boulder, Colorado.

Kentucky Hardware and Implement Association, Louisville, January 22-25, 1924. J. M. Stone, Secretary-Treasurer, 202 Republic Building, Louisville.

Indiana Retail Hardware Association, Inc., Convention and Exhibition, Cadle Tabernacle, January 29, 30, 31, February 1, 1924. G. F. Sheely, Secretary, Argos.

Illinois Retail Hardware Association, Hotel Sherman, Chicago, Illinois, February, 1924. Leon D. Nish, Secretary-Treasurer, Elgin, Illinois.

Nebraska Retail Hardware Association, Lincoln, Nebraska, February 5 to 8, 1924. George H. Dietz, Lincoln Nebraska, Secretary-Treasurer.

Wisconsin Retail Hardware Association Convention and Exhibition, Milwaukee Auditorium, February 6, 7, 8, 1924.

George W. Kornely, Manager of Exhibits, 1476 Green Bay Avenue, Milwaukee. P. J. Jacobs, Secretary-Treasurer, Stevens Point.

Michigan Retail Hardware Convention and Exhibition, Grand Rapids, February 12, 13, 14, 1924. Karl S. Judson, Exhibit Manager, 248 Morris Avenue, Grand Rapids. A. J. Scott, Secretary, Marine City, Michigan.

Iowa Retail Hardware Association, Des Moines, Iowa, February 12, 13, 14 and 15, 1924. A. R. Sale, Secretary-Treasurer, Mason City, Iowa.

The Pennsylvania and Atlantic Seaboard Hardware Association, Incorporated, Convention and Exhibition at the Philadelphia Commercial Museum, Philadelphia, Pennsylvania, February 12, 13, 14 and 15, 1924. Sharon E. Jones, Secretary-Treasurer, Wesley Building, Philadelphia.

Ohio Hardware Association, Convention and Exhibition, Cincinnati, Ohio, February 19, 20, 21 and 22, 1924. James B. Carson, Secretary, 1001 Schwind Building, Dayton, Ohio.

New York Retail Hardware Association Convention and Exhibition, February 19, 20, 21, 22, 1924. Headquarters, McAlpin Hotel, and exhibition at Seventy-first Regiment Armory. John B. Foley, Secretary, 412-413 City Bank Building, Syracuse, New York.

Retail Hardware Doings

Florida.

W. Heath Proctor is in charge of the Coconut Grove Hardware Company, which has just opened in the Sunshine Building, Miami.

Idaho.

Fire of unknown origin completely destroyed the Ninth Street warehouse and contents belonging to J. A. Lauer and Brothers hardware store at Shoshone.

Illinois.

The Hoffman Hardware store has opened a new branch at 1755 West 95th Street, in the new Wilsdon Building, Chicago.

Sitton Brothers have sold their hardware and implement stock at Pleasant Hill, to W. T. Waugh.

Iowa.

At Wiota, the Robinson and Sons hardware firm has begun construction of a store room adjoining the Cozy theatre building.

Minnesota.

Peter Morneau of Pine City has purchased the Ogilvie Hardware store at Ogilvie from J. A. Skluzacek.

Missouri.

J. H. Lampkin has sold his hardware business at Centerview to Guy Goode of Pilot Grove and J. B. Harriman of Hughesville.

Ohio.

A business deal has been completed whereby Roy Earl, Lima, and Charles Booth, Rushsylvania, become the owners of the Union Hardware Store at Rockford. They purchased the store from George Dustman.

Oklahoma.

The Benson County Hardware Company has moved from Rogers, Arkansas, to Muskogee.

Wisconsin.

J. H. Leyson has sold his hardware store at Dodgeville to Charles Mundon of Arthur.

Cappel Draws Women by Hundreds to Witness Demonstration of Labor-Saving Kitchen.

Dayton Stove Merchant Uses Real Kitchen Arrangements to Show Value of His Ranges.

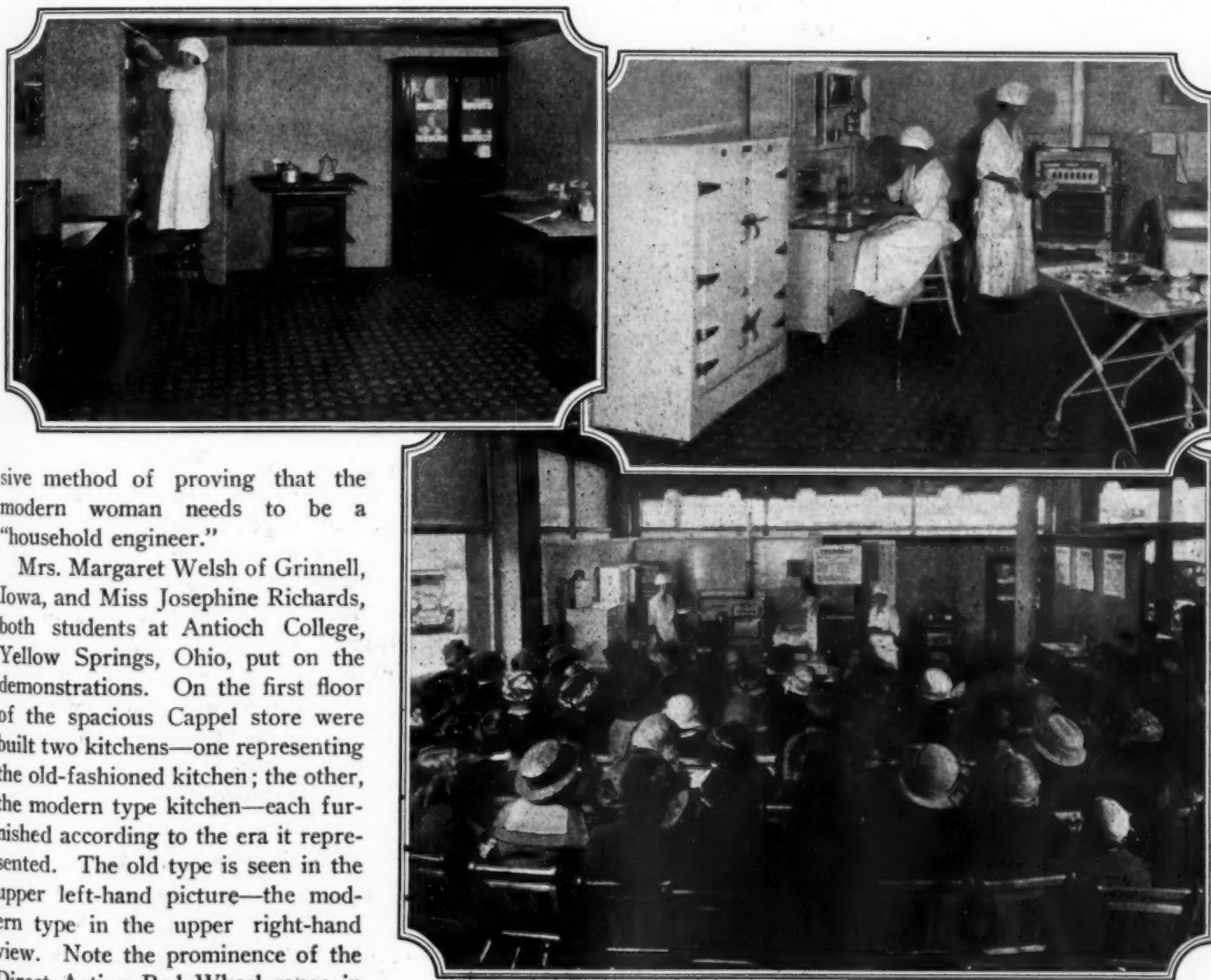
THAT the woman of today who uses modern labor-saving household equipment saves a vast amount of time was proven recently by a week of actual demonstrations by the Cappel Furniture Company, who sell Direct Action gas ranges in Dayton, Ohio.

The unquestioned saving in labor and time which comes through the use of a Lorain-equipped gas range and the kitchen cabinet was not only a revelation to the hundreds of housewives who attended the demonstration, but was also an impres-

sive method of proving that the modern woman needs to be a "household engineer." Also, she had to pay constant attention to her old type gas stove and more, she could hardly do more than one thing at one time when preparing food for the table. The Hoosier kitchen cabinet, of course, eliminates all the old-fashioned method of running for a pan here, and chasing for a dish there. The gas range equipped with the Lorain Oven Heat Regulator enables her to do a maximum amount of cooking and baking with a minimum amount of time and energy. The housewife

merely entrusts the dishes to the Lorain Oven and allows them to bake for hours at a time—unwatched. She knows when "time's up" they will be perfectly "done."

All these big advantages of the modern kitchen conveniences were emphatically shown by the Cappel demonstrations. It was most interesting because it was not overdrawn. It was a story lifted from actual life experiences. Also, it was impressive because the lesson it told was one that could not be misunderstood by the women who saw it. Actual meals prepared under actual conditions as endured by the old-time housewife and the same meals prepared under the actual conditions enjoyed by the woman who uses modern labor-saving equipment furnished graphic evidence of the in-



Upper Left Shows Old Fashioned Kitchen. Upper Right Gives Idea for Modern Kitchen. Lower Picture Taken During Demonstration Lecture. Two Upper Groups Were Arranged on Stage.

sive method of proving that the modern woman needs to be a "household engineer."

Mrs. Margaret Welsh of Grinnell, Iowa, and Miss Josephine Richards, both students at Antioch College, Yellow Springs, Ohio, put on the demonstrations. On the first floor of the spacious Cappel store were built two kitchens—one representing the old-fashioned kitchen; the other, the modern type kitchen—each furnished according to the era it represented. The old type is seen in the upper left-hand picture—the modern type in the upper right-hand view. Note the prominence of the Direct Action Red Wheel range in the latter.

They actually demonstrated every day that the old-fashioned house-

wife had to do a "marathon" every finitely easier conditions that surround the housewife of today—if she will but introduce into her home the finest of efficient kitchen equipment like the Hoosier Kitchen Cabinet and the Lorain-equipped gas range.

Certainly the Cappel Furniture Company deserve lots of credit for their progressive and unusual methods of impressing prospects with the big worth of Lorain-equipped gas ranges. Newspaper advertising was not overlooked, for Harry Cappel of this firm is too good a stove merchandiser to overlook so helpful an ally as an advertising campaign in his local papers. He used all three Dayton dailies to advertise the various daily demonstrations. That this drew the attendance is shown by the picture.

Weiss Furniture Store Runs Fair Week Special.

There is a difference of opinion regarding the use of heavy borders around small advertisements. Those authorities who speak against heavy borders claim that large and odd-shaped borders have their place, as everything else, but these borders, by attracting attention to themselves, detract the eye from the body of the advertisement.

In the accompanying advertisement the border is too wide; a 1-point rule would have sufficed.

The large-faced type used in the price quotation is very good, but although the store clerk and the proprietor know the difference between the regular price of the stove and the special sale price, the chances are that the man to whom the appeal is made does not; therefore special attention should be called to the reduction.

The illustration would be more effective were it placed on the left-hand side of the ad. This arrangement would have permitted the combining of the reading matter. As it is now the eye focuses on the center and then gyrates between the messages on either side, probably concentrating on neither; whereas, had it been placed at the left there would have been no hesitancy.

The words, "We Undersell," in the vernacular of Goldberg, in the Chicago Daily News, "don't mean anything."

The original size of the ad was 5 x 6½ inches.

This is said to be a day of specialists, but the man who specializes too closely makes a better job of working for someone else than of managing a business of his own.

Dose Price-Cutting Pay in the End?

When a merchant begins cutting his prices to hold his trade, all the little devils, whose special business it is to harass broken and bankrupt merchants, cackle at the prospect of another harassee.

That's only another way of saying that the practice of price-cutting to hold customers is a rather clear indication that something is wrong and that the wrong thing is being done to right it. "Price-cutting to hold your own trade or to get your competitor's customers will react against your own business in the end" is the advice given merchants by the Business Consultation Bureau of La Salle Extension University, Chicago.

Many a merchant has decided at some time or another whether or not he will shave his prices a little to a favored few of his customers, either because of personal friendship and business association, or because they happen to attend the same church. If he makes this discrimination it is not long before the fact becomes general knowledge, among all the other customers.

If your competitor begins to cut his prices—let him. It is usually a good reason why you should not follow his example. Just sit tight and watch him.

There are some times when price-cutting is necessary. Often it is the only way to get out from under an overstock in some line or perhaps the entire store. That's the time to cut, but give all your customers the advantage of the lower sale prices. Unless it is to your advantage, because of an overstock or some other good reason, don't cut your prices just because your competitor across the street is cutting his.

It is a great thing to have the discernment to perceive and seize the psychological moment in all situations in life. The ability to recognize it; to know how to seize the exact moment to convert a desire to possession, is the test of superior salesmanship.

The Store Of Quality

FAIR WEEK SPECIAL

Globe Range of cast iron construction with 18 inch oven, 6 lids and a Duplex grate. Will burn coal or wood. Complete with reservoir tank, exactly like cut only

\$57⁵⁰



Pioneer Globe

You Should Investigate

GLOBE HEATERS

before buying any other

MORE HEAT AND LESS COAL

Don't fail to see Globe Ranges, McDougall Kitchen Cabinets and A. B. C. Washers
Displayed in Our Booth at the Fair

WEISS FURNITURE STORE

505-513 Main St.
We Undersell

Calling Attention to Booth at Fair.

Advertising Is a Substitute for a Demonstration and Must Be Reliable.

Give Your Advertisements Personality by Making Them a Part of Yourself and Your Business.

THE power of suggestion is one of the best selling tactics possessed by a salesman. What is the aim of all advertising and window display if not to suggest new ways

those which can be properly listed under the needs of a farmer for the fall and early winter needs. This is the type of add that builds good will.

For Fall Purchases You Will Need

Barn Door Hinges,
Gate Hinges,
Door Locks, Pad Locks,
Wood Heaters,
Coal Heaters, Gas Heaters,
Coal Ranges

Nails, Screws, etc.
Tools of all kinds,
Lanterns,
Food Choppers,
Guns,
Ammunition.

Winchester Football Special \$1

There is only one reliable kind to buy. That is the kind that lasts and gives service and satisfaction. We sell them all at close prices.

Richey Hardware Co.

of doing things or things which will produce joys not heretofore experienced by the prospective customer?

The accompanying reprint is made from the *Sheridan (Indiana) News*. It is an excellent effort to make use of the power of suggestion. The headline could not be improved upon. It sounds as though some friend were giving a piece of good advice; it lacks nothing; it has no superfluous verbiage; the typographical arrangement is very good. Among the items suggested are found only

People come to respect the advice given by a store like this simply because its advertisements show plainly and truly that the management of the store has the interest of its customers at heart. There is nothing that we could criticize in this ad.

* * *

In the accompanying reprinted advertisement, taken from the *Washington (Indiana) Democrat*, we have a piece of copy making a strong appeal through the human element. Some member of the firm, it may be one of the clerks but more

likely it is the proprietor himself, has hunting as his hobby. This being the case, he has kept informed regarding everything concerning hunting. He undoubtedly knows the laws pertaining to the subject; he has the newest wrinkles in first-class equipment and above all else he likes to "gas" with the boys about his hunting experiences. This one thing does more to build up interest in a subject than anything else.

For simplicity and straightforwardness of purpose the ad could

Hunters. Headquarters

Our store is the headquarters for all good hunters.

We have a very complete line of the best guns and ammunitions.

TRY US!

VANCE Hdwe. and Implement Co.

not be improved upon. It tells the man interested in hunting where he will find a sympathetic ear, where he can get the latest information about a subject in which he finds his recreation.

* * *

The best thing a man can say about himself is, "I like my job."

Business Activities Continue on High Level; Commodity Prices Stronger; Consumption Large.

Business Moderate in Non-Ferrous Metals—Consumers Buy Cautiously — Copper Drops — Zinc Market Dull.

BUSINESS sentiment is settling down to a more sober basis regarding the outlook.

The summer quietness was succeeded by eager expectation of a swift recovery to take place in September. When this failed to appear there was a spread of disappointment first in the financial markets and later among business men. Fears that business was headed downward into a deep depression caused an excess of uncertainty for a time.

Business may be less active than the peaks of 1923, but this is not saying that it will drop to the low levels of 1921. In fact there is every indication that the months ahead will bring a substantial volume of trade, measured by normal standards.

Revenue freight loadings during the last week of September reached the highest point in American railroad history, the total being 1,097,274 cars. This marked the fifteenth "million car week" in 1923, whereas only seven such weekly records had been achieved in any previous year. Despite the heavy current movement, there were 41,000 surplus freight cars in good repair on September 30, compared with a shortage of 100,000 cars a year ago.

Business in the nonferrous metals has been moderate, with consumers buying cautiously as in previous weeks.

Copper.

Copper has been the market feature descending to new low levels for the past 16 months, back to levels prevailing when the market was just emerging from the 1921 depression.

The Western Electric Company entered the market for between 5,000,000 and 10,000,000 pounds and closed for a tonnage on October 5, at 13 cents delivered. This had

the effect of establishing the market at this level, although most producers quoted higher on small lots. Copper is an international metal and therefore is subject to world conditions of supply and demand. In consequence it has declined in the face of record peacetime American consumption.

Smaller factors in the copper market have resisted the lower market levels, with the result that secondary copper has not declined in keeping with the drop in Electrolytic, which is the market base. Scrap has been forthcoming sparingly at the lower prices, while secondary refiners have held casting copper and ingot brass at an unusually small differential below Electrolytic.

Demands for copper from the American electrical trades are unabated, but brass business is slow. All brass and copper products were cut $\frac{1}{2}$ cent Monday. Most of the independent mills now are in a position to make prompt deliveries of almost any product.

Tin

Tin has been featured by a pinch in the spot supplies, with the result that a premium of $\frac{1}{2}$ to $\frac{3}{4}$ cent has prevailed for spot over future shipment prices the past week. This is recognized as a temporary and passing situation, but occurs every now and then.

A heavy tonnage of tin is afloat to this country, and shipments soon will be arriving to rectify the situation. Straights tin prices have ranged between 41.50 cents and 42.75 cents in the past week.

Zinc.

The zinc market has been quiet, holding at 6.27 $\frac{1}{2}$ cents to 6.30 cents, East St. Louis.

A little export business has been done with British buyers at 6.30 cents, East St. Louis.

Independent steel sheet galvanizers have held to their policy of buying from hand to mouth and business in prime western consequently has been mainly for prompt and October shipments. High grade business has been good, with prices ranging from 7.50 cents to 8.50 cents, according to brand.

Prompt, October and November East St. Louis quotations are 6.27 $\frac{1}{2}$ cents.

Lead.

Lead sales have been light, but the market has been firm.

Business has been done in Missouri lead with middle western consumers at 6.65 cents to 6.70 cents, East St. Louis, the past week. In the eastern market, independent producers and outside sellers maintained 7 cents, New York, until today, but now the market is 6.85 cents to 7 cents.

A relatively large amount of the going business has been taken by the leading interest at its official contract price of 6.85 cents, New York.

Producers report that consumers are calling for quick shipment on their purchases so that while in this metal as in others conservatism prevails it is evident that stocks in buyers' hands are small.

Solder.

Chicago warehouse prices on solder are as follows: Warranted, 50-50, \$27.50; Commercial, 45-55, \$26.55, and Plumbers', \$25.50, all per 100 pounds.

Nails and Wire.

Mixed carload business at Pittsburgh represents the majority of the orders coming to wire products makers, but so far these do not specify much fencing. These orders for the most part call for plain wire, barbed wire and nails.

Straight single carloads also are fairly numerous, and occasionally an even larger tonnage is bought by jobbers over a scattered territory.

The ease with which orders have been taken recently indicates that the market prices of 2.75 cents and 3 cents, base Pittsburgh, on wire and nails, respectively, are firm.

Sheets.

Additional sheet business is coming out at Pittsburgh, users now buying representing different lines of activity so that all grades are involved.

A trifle less pressure is being exerted for deliveries of sheets on contracts and this is leaving room for the placing of fresh business.

The fact that practically all of this business is being taken at the full market prices shows that the effects of competitive quotations, offered by manufacturers representing less than 25 per cent of the total sheet tonnage capacity of the country, attests the firmness of the 3.00 cent, 3.85 cent, 5.00 cent and 5.35 cent, base Pittsburgh, levels, the prices quoted by one large interest and the majority of independents on blue annealed, black, galvanized and full finished automobile sheets, respectively.

A few small producers still are willing to sell black at 3.75 cents, but those quoting the 3.85 cents figure report additional orders for 100, 200, 300 or 450 tons at a time at their own price.

Conditions in the sheet steel market at Chicago are unchanged with western producers sold well ahead and nearby delivery cannot be obtained here.

Quotations are unchanged at 3 cents for blue annealed, 3.85 cents on black and 5 cents, Pittsburgh, on galvanized.

Tin Plate.

Tin plate mill operations are maintained at as high a rate as is physically possible in view of the shortage of tin mill crews which still exists.

Some makers cannot reach an

average operating rate above 87½ per cent, being unable to find skilled hot mill men, while others are able to maintain 90 or 95 per cent averages.

Various interests have intimated what their first quarter 1924 requirements are going to be, and from present indications next year's consuming rate will exceed the high level in sight for 1923.

The price is unchanged at \$5.50 per base box of 100 pounds, Pittsburgh.

Pig Iron Suffering from Over-Production; Close Competition Forces Prices Down.

Pittsburgh Price Goes from 50c to \$1 Below Last Week—Chicago Foundry at \$26—Small Orders Received at Birmingham.

THE monthly report of the United States Steel Corporation showed a reduction of 378,913 tons in forward bookings as of September 30. As this was the smallest decrease since June 30, the report was regarded with optimism, although new business now on the books is the lowest since March, 1922.

Unfilled orders on September 30 amounted to 5,035,750 tons.

New business in September was about 775,000 tons, an increase of nearly 100,000 tons over August, and bookings during the first ten days of this month have been good.

The Steel Corporation is maintaining operations close to 90 per cent of capacity, while the independents are running between 65 and 75 per cent.

The *Iron Age* and *Iron Trade Review* both note improvement, especially calling attention to the fact that railroad inquiries for cars now are the largest since early in the year.

Further weakness is shown in pig iron at Pittsburgh, quotations being lower by 50 cents or \$1 a ton than last week. One sale of 2,000 tons of foundry iron is reported on the basis of \$24, valley, for No. 2 grade (1.75 to 2.25 silicon) to a regular connection by one producer who also

Old Metals.

Wholesale quotations in the Chicago district, which should be considered as nominal, are as follows: Old steel axles, \$17.50 to \$18.00; old iron axles, \$25.00 to \$25.50; steel springs, \$19.00 to \$19.50; No. 1 wrought iron, \$14 to \$14.50; No. 1 cast, \$17.50 to \$18.00, all per net tons. Prices for non-ferrous metals are quoted as follows, per pounds: Light copper, 9 cents; light brass, 5 cents; lead, 4¼ cents; zinc, 3½ cents, and cast aluminum, 15 cents.

reports several other 50 to 150-ton orders at the same figure. A foundry in Youngstown, however, was able to close on several hundred tons at \$23.50, valley, and while as high as \$24.25 and \$24.50, valley, was obtained on single carloads a week ago, the market now is quotable at \$23.50 to \$24, a decline of 50 cents.

More inquiry for pig iron has appeared in the Chicago district. The general quotation on foundry iron still is \$26, base, Chicago, but the situation is weak. One southern maker which quoted \$20, Birmingham last week, now has restored its schedule to \$21. Another maker, however, still is reported as naming \$20. A sale of 100 tons of off-analysis southern iron has been offered at \$19.

Furnace interests of the Birmingham district are receiving a number of small orders for delivery within 60 days. It is estimated 3,000 tons at least has gone on the yards since October 1 when 108,298 tons of iron was piled. Almost three-quarters of this belongs to two companies.

Iron at \$21 shows a loss, everything considered, producers say. Local prices of iron are as high as \$24, but in the Middle West with a freight rate of \$6.01 per ton, \$21 base continues to be done.

Current Hardware and Metal Prices.

AMERICAN ARTISAN AND HARDWARE RECORD is the only publication containing Western Hardware and Metal prices corrected weekly.

METALS

PIG IRON.

Chicago Foundry...	26 00
Southern Fdy. No. 2	26 01 to 27 01
Lake Sup. Char-coal	30.04
Malleable	26 00

FIRST QUALITY BRIGHT TIN PLATES.

	Per Box
IC 14x20 112 sheets	\$13 45
IX 14x20	14 05
IXX 14x20 56 sheets	17 57
IXXX 14x20	18 17
IC 20x28 112 sheets	18 65
IX 20x28	22 85
IXX 20x28 56 sheets	18 15
IXXX 20x28	17 30
IC 20x28	18 25

TERNE PLATES.

	Per Box
IC 20x28, 40-lb. 112 sheets	\$25 60
IX 20x28, 40-lb.	28 50
IC 20x28, 30-lb.	21 80
IX 20x28, 30-lb.	24 70
IC 20x28, 25-lb.	20 80
IX 20x28, 25-lb.	23 70
IC 20x28, 20-lb.	18 30
IX 20x28, 20-lb.	21 15
IC 20x28, 15-lb.	17 05
IX 20x28, 15-lb.	18 75
IC 20x28, 12-lb.	14 05

COKE PLATES.

Cokes, 80 lbs., base, 20x28.	\$14 05
Cokes, 90 lbs., base, 20x28.	14 30
Cokes, 100 lbs., base, 20x28.	14 65
Cokes, 107 lbs., base, IC 20x28	15 10
Cokes, 135 lbs., base, IX 20x28	17 15
Cokes, 155 lbs., base, 56 sheets	9 30
Cokes, 175 lbs., base, 56 sheets	10 10
Cokes, 195 lbs., base, 56 sheets	10 95

BLUE ANNEALED SHEETS.

Base	per 100 lbs. \$4 00
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ONE PASS, COLD ROLLED BLACK.

No. 18-20	per 100 lbs. \$5 00
No. 22-24	per 100 lbs. 5 05
No. 26	per 100 lbs. 5 10
No. 27	per 100 lbs. 5 15
No. 28	per 100 lbs. 5 20
No. 29	per 100 lbs. 5 30

GALVANIZED.

No. 16	per 100 lbs. \$5 60
No. 18-20	per 100 lbs. 5 75
No. 22-24	per 100 lbs. 5 80
No. 26	per 100 lbs. 6 05
No. 27	per 100 lbs. 6 20
No. 28	per 100 lbs. 6 35
No. 29	per 100 lbs. 6 55

BAR SOLDER.

Warranted, 50-50	per 100 lbs. \$27 50
Commercial, 45-55	per 100 lbs. 25 55
Plumbers	per 100 lbs. 25 50

ZINC.

In Slabs	6 27 1/2
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SHEET ZINC.

Cask lots, stock, 100 lbs.	11 00
Less than cask lots, 100 lbs.	11 50

BRASS.

Sheets, Chicago base	21c
Mill Base	18c
Tubing, brazed, base	26c
Wire, base	18 1/2c

COPPER.

Sheets, Chicago, base	21c
Mill base	20 3/4c
Tubing, seamless, base	22 3/4c
Wire, No. 9 & 10 B. & S. Ga.	20 3/4c
Wire, No. 11, B. & S. Ga.	20 3/4c

LEAD.

American Pig	6 67 1/2
Bar	7 77 1/2

Sheet.	
Full Coils...per 100 lbs.	10 75
Cut Coils...per 100 lbs.	11 75

TIN.

Pig Tin	per 100 lbs. 42% c
Bar Tin	per 100 lbs. 43% c

HARDWARE, SHEET METAL SUPPLIES, WARM AIR HEATER FITTINGS AND ACCESSORIES.

ADZES.

Coopers', Barton's	Net
White's	Net

AMMUNITION.

Shells, Loaded, Peters.	
Loaded with Black Powder 18%	
Loaded with Smokeless Powder	18%
Winchester.	
Smokeless Repeater	
Grade	20 & 4%
Smokeless Leader	
Grade	20 & 4%
Black Powder	20 & 4%
U. M. C.	
Nitro Club	20 & 4%
Arrow	20 & 4%
New Club	20 & 4%
Gun Wads—per 1000.	
Winchester 7-8 gauge 10&7 1/4%	
3-10 gauge 10&7 1/4%	
11-28 gauge 10&7 1/4%	

ASBESTOS.

Paper up to 1/16	6c per lb.
Rollboard	6 1/2c per lb.
Milboard 3/32 to 1/4	6c per lb.
Corrugated Paper (24 sq. ft. to roll)	\$6.00 per roll

AUGERS.

Boring Machine	40&10%
Carpenter's Nut	50%
Hollow.	
Stearns, No. 4, doz.	\$11 50
Post Hole.	
Iwan's Post Hole and Well	35%
Vaughan's, 4 to 9 in.	\$15 60

AXES.

First Quality, Single Bitted (unhandled, 3 to 4 lb., per doz.)	\$14 00
Good Quality, Single Bitted, same weight, per doz.	13 00

BAR, CROW.

Steel, 4 ft., 10 lb.	\$ 80
Steel, 5 ft., 18 lb.	1 40
Pinch bars, 5 1/2 ft., 24 lb.	1 60

BARS, WRECKING.

V. & B. No. 12	\$0 34
V. & B. No. 24	0 43
V. & B. No. 32 1/2	0 57
V. & B. No. 30	0 43
V. & B. No. 330	0 63

BITS.

All Vaughan and Bushnell.	
Screw Driver, No. 30, each	\$ 27
Screw Driver, No. 1, each	16
Reamer, No. 80, each	41
Reamer, No. 100, each	41
Countersink, No. 13, each	20
Countersink, Nos. 14-15, each	27

BLADES, SAW.

Wood.	
Atkins 30-in.	
Nos.	40 26
	\$8 90 \$9 45 \$5 40

BLOCKS.

Wooden	45%
Patent	45%

BLOW TORCHES (See Firepots).

BOARDS.

Stove.	Per Doz.
Crystal, 33"	23 90

Wash.	
No. 760, Banner Globe (single)	per doz. \$5 25
No. 452, Banner Globe (single)	per doz. 6 75
No. 801, Brass King	per doz. 8 25
No. 860, Single—Plain Pump	6 25

BOLTS.

Carriage, Machine, etc.	
Carriage, cut thread, 1/2x6 and sizes smaller and shorter	50-5%
Carriage sizes, larger and smaller and shorter	40-10%
Machine, 1/4x4 and sizes smaller and shorter	50-10%
Machine, sizes larger and longer than 1/4x4	50-2 1/2%
Stove	70-5%

BRACES, RATCHET.

V. & B. No. 444 1/2 in.	\$4 54
V. & B. No. 222 3/4 in.	3 89
V. & B. No. 111 8 in.	3 55
V. & B. No. 11 8 in.	3 02

BRUSHES.

Hot Air Pipe Cleaning.	
Bristle, with handle, each	\$0 85
Flue Cleaning.	
Steel Only, each	\$1 25

BURRS.

Copper Burrs only	40%
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BUTTS.

Steel, antique copper or dull brass finish—case lots—3 1/2x3 1/2—per dozen pairs	\$3 43
4x4	4 74

Heavy Bevel steel inside sets, case lots—per dozen sets	3 00
Steel bit keyed front door sets, each	2 00
Wrought brass bit keyed front door sets, each	4 00
Cylinder front door sets, each	8 50

CEMENT, FURNACE.

American Seal, 5 lb. cans, net	\$ 45
" 10 lb. cans, "	30
" 25 lb. cans, "	2 00
Asbestos, 5 lb. cans, "	45
Pecora	per 100 lbs. 7 51

CHAINS.

Sher. Steel Safety Chain.	
500-ft. coll. per ft.	.02
100 to 500 ft., per ft.	.02 1/2
Less than 100 ft., per ft.	.03
Iron Jack Chain.	
Box (12 yds.)	.45

CHIMNEY TOPS.

Iwan's Complete Rev. & Vent.	30%
Iwan's Iron Mountain only	35%
Standard	30 to 40%

CHISELS.

Cold.	
V. & B. No. 25, 1/4 in., each	\$0 26
V. & B. No. 25, 1/2 in., each	41
Diamond Point.	
V. & B. No. 55, 1/4 in.	0 31
V. & B. No. 55, 1/2 in.	0 43

FIRMER BEVELLED.

Round Nose.	
V. & B. No. 65, 1/4 in.	0 29
V. & B. No. 65, 1/2 in.	0 40

SOCKET FIRMER.

Cape.	
V. & B. No. 50, 1/4 in.	0 31
V. & B. No. 50, 1/2 in.	0 57

CHUCKS, DRILL.

Goodell's, for Goodell's Screw Drivers	List less 35-40%
Yankee, for Yankee Screw Drivers	\$4 00

CLAMPS.

Adjustable.	
No. 100, Door (Stearns)	doz. \$22 00
Carpenters'.	
Steel Bar..List price plus 20%	

Hose.	
Sherman's brass, 1/4-inch	per doz. \$0 48
Double, brass, 1/4-inch, per doz.	1 20

CLINKER TONGS

Front Rank, each	\$1 75
Per doz.	1 85

CLIPS.

Damper.	
Acme, with tail pieces, per doz.	\$1 31
Non Rivet tail pieces, per doz.	31

COPPERS—Soldering.

Pointed Roofing.

3 lb. and heavier	per lb. 40c
2 1/2 lb.	45c
2 lb.	48c
1 1/2 lb.	55c
1 lb.	60c

CORD.

No. 7 Std. per doz. banks	\$10 31
No. 8 " "	12 00

CORNICE BRACKES.

Chicago Slat Bending.	
Nos. 1 to 6 B.	10%

COUPLINGS, HOSE.

Brass	per doz. \$2 31
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CUT-OFFS.

Kuehn's Korrekt Kutoffs:	
Galv., plain, round or cor. rd.	
Standard gauge	40%
26 gauge	10%

DAMPERS.

"Yankee" Hot Air.	
7 inch, each 20c, doz.	\$1 75
8 " " 25c, " "	2 40
9 " " 30c, " "	2 75
10 " " 32c, " "	3 00

Smoke Pipe.	
7 inch, each	\$ 35
8 " "	40
9 " "	50
10 " "	60
12 " "	80

Reversible Check.	
8 inch, each	\$1 50
9 " "	1 70

DIGGERS.

Post Hole.	
Iwan's Split Handle (Eureka)	
4-ft. Handle...per doz.	\$14 00
7-ft. Handle...per doz.	35 00
Iwan's Hercules pattern, per doz.	14 00

DRILLS.

V. & B. Star, 12-inch Length.	
1/4, 5/16 and 3/8, each	35
1/2, each	40
1, each	51
1 1/4, each	81
V. & B. Star, 18-inch Length.	
5/16 and 3/8, each	35
1/2, each	45
1, each	60
1 1/4, each	1 00

EAVES TROUGH.

Milcor	
Galv. Crimpedge, crated	75%

ELBOWS—Conductor Pipe.

Milcor	
Galv., plain or corrugated, round flat	
Crimp, Std. gauge	65%
26 Gauge Std. gauge	40%
24 Gauge Std. gauge	10%

Square Corrugated.	
Milcor	
Standard gauge	45%
26 gauge	30%

Portico Elbows.	
Standard Gauge Conductor Pipe, plain or corrugated.	
Not nested	70 & 5%
Nested solid	70 & 5%

ELBOWS—Stove Pipe.

1-piece Corrugated. Uniform.	Doz.
5-inch	\$1 48
6-inch	1 60
7-inch	2 10
Special Corrugated.	Doz.
5-inch	\$1 45
6-inch	1 75

Terne Plate Specialists

Since the beginning of the industry in this country.

Write for samples.



Our Brands

shown here ranging from 40 to 8 pound have proven their unusual lasting qualities by years of actual service.

A LARGE stock of all brands always carried in stock for immediate shipment. Also manufacturers of "Osborn Quality" Gutter and Conductor, 28 gauge being our standard

Let us quote on your requirements.

THE J. M. & L. A. OSBORN CO., CLEVELAND

Sheet Metal Workers' and Furnacemen's Supplies

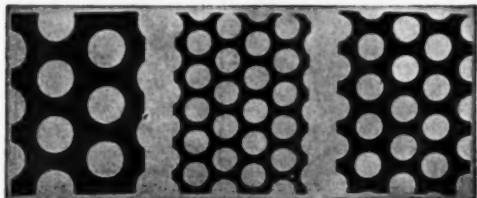
**Steel Ceilings
Side Walls and Cornices**
Only first quality material used
Many neat designs of character.

Write today for our complete catalog giving descriptions and prices.

THE W. J. BURTON CO.

Junction Ave. and Federal St. and 436 Penobscot Bldg. Detroit, Michigan

PERFORATED METALS



All Sizes and Shapes of Holes

In Steel, Zinc, Brass, Copper, Tinplate, etc.

For All Screening, Ventilating and Draining

EVERYTHING IN PERFORATED METAL

THE HARRINGTON & KING PERFORATING CO.

5649 FILLMORE ST.-CHICAGO, ILL. U. S. A.
NEW YORK OFFICE, 114 LIBERTY ST.

SOFT DURABLE WORKABLE

These qualities
combine to make

Inland Copper Alloy Sheets

The favorite
in the Sheet Metal Shop

INLAND STEEL COMPANY

38 South Dearborn St., Chicago

Works:

Indiana Harbor, Ind.
Chicago Heights, Ill.

Branch Offices:

Milwaukee St. Louis
St. Paul

Uniform, Collar Adjustable.	
5-inch	Doz. \$2 90
6-inch	Doz. 3 10
7-inch	Doz. 3 60

WOOD FACES—50% off list.

FENCE.	
Field Fence	.....60%
Lawn	.....55%

FILES AND RASPS.

Heller's (American)	.....65-5%
American	.....65-5%
Archie	.....60 & 10%
Black Diamond	.....50-5%
Eagle	.....60-10%
Great Western	.....60 & 10%
Kearney & Foot	.....60 & 10%
McClellan	.....60 & 10%
Nicholson	.....50-14%
Simonds	.....60%

FIRE POTS.

Ashton Mfg. Co.	
Complete line	
Firepots and Torches	.....52%

Otto Berns Co.

No. 1 Furn. Gasolene with large shield, 1 gal.	\$ 6 75
No. 3 Furn. Kerosene, 1 gal.	15 12
No. 10 Brazier, Kerosene or Gasolene, 10 gals.	47 52
No. 5 Torch, Gasolene or Kerosene, 1 pt.	7 92
No. 33 Torch, Gasolene, 1 quart	5 40
No. 35 Torch, Gasolene, 1 pt.	4 05

Clayton & Lambert's.

East of west boundary line of Province of Manitoba, Canada, No. Dakota, So. Dakota, Nebraska, Kansas, Oklahoma, Amarillo, San Angelo and Laredo, Texas	.....52%
West of above boundary line	.....48%

Geo. W. Diener Mfg. Co.

No. 02 Gasolene Torch, 1 qt.	\$ 5 55
No. 0250, Kerosene or Gasolene Torch, 1 qt.	7 50
No. 10 Tinner's Furn. Square tank, 1 gal.	12 60
No. 15 Tinner's Furn. Round tank, 1 gal.	12 00
No. 21 Gas Soldering Furnace	3 60
No. 110 Automatic Gas Soldering Furnace	19 50

Double Blast Mfg. Co.

Gasolene, Nos. 25 and 3560%
--------------------------	----------

Quick Meal Stove Co.

Vesuvius, F.O.B. St. Louis	30%
(Extra Disc't. for large quantities)	

Chas. A. Hones, Inc.

Buzzer No. 1	\$ 9 00
" " 2	12 00
" " 22	15 50
" " 42	15 00
" " 43	19 00

FREEZERS—ICE CREAM.

Peerless and Alaska	
1 quart	\$2 95
2 quart	3 45
3 quart	4 10
White Mountain	
1 quart	\$3 50
2 quart	4 40
3 quart	5 70

GALVANIZED WARE.

Pails (Competition), 8-qt.	\$1 95
10-qt.	2 25
12-qt.	2 50
14-qt.	2 75

Wash tubs, No. 1	\$6 75
No. 2	7 00
No. 3	8 25

GARAGE DOOR HARDWARE.

StanleyAll net
---------	--------------

GAUGES.

Marking, Mortise, etc.	.....Nets
Wire	
Disston's	.....25%

GIMLETS.

Discount65% and 10%
----------	------------------

GLASS.

Single Strength, A and B, all sizes	.....33 & 35%
Double Strength, A, all sizes	.....84%

GREASE, AXLE.

Frazzer's	
1-lb. tins, 24 to case, per case	\$ 4 75
3-lb. tins, 24 to case, per case	7 80
5-lb. tins, 12 to case, per case	7 20
10-lb. tins, per dozen	19 40
15-lb. tins, per dozen	12 80
25-lb. tins, per dozen	19 80

HAMMERS, HANDLED.

All V. and B.	Each, net
Blacksmiths' Hand, No. 0, 36-oz.	\$1 00

Engineers' No. 1, 24-oz.	1 00
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Farrier's, No. 7, 7-oz.	92
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Machinists', No. 1, 7-oz.	93
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Nail	
------	--

Vanadium, No. 41, 28-oz.	1 45
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Vanadium, No. 41½, 18-oz.	1 45
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V. & B. No. 11½, 16-oz.	1 04
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Garden City, No. 11½, 16-oz., each	87
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Tinner's Riveting, No. 1, 8-oz., each	82
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Shoe, Steel, No. 1, 18-oz., each	85
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Tack	
------	--

Magnetic	
----------	--

No. 5, 4-oz., each	72
--------------------	----

HAMMERS, HEAVY.

Farrier's30%
Mason's	
Single and Double Face50%

HANDLES.

Axe	
Hickory, No. 1, per doz.	4 00
Hickory, No. 2, " "	3 00
1st quality, second growth	5 00
Special white, 2nd growth	5 00

Chisel	
--------	--

Hickory, Tanged, Firmer	
-------------------------	--

Assorted	per doz. 55c
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Hickory, Socket, Firmer	
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Assorted	per doz. 70c
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File	per doz. \$1 20
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Hammer and Hatchet	
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No. 1 per doz.	\$9 90
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Second growth hickory, per doz.	1 50
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Soldering	
-----------	--

Per doz.	\$2 40
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HANGERS.

Conductor Pipe	
----------------	--

Milcor Perfection Wire25%
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Eaves Trough	
--------------	--

Steel hangers30%
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Triple Twist wire10%
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Milcor Eclipse Wire20%
---------------------	----------

Milcor Triplex Wire15%
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Milcor Milwaukee Extension15%
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Milcor Steel (galv. after forming) List plus12½%
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Milcor Selflock E. T. Wire, List plus40%
---------------------------------------	----------

HASPS.

Hinge, Wrought, with staples, Net	
-----------------------------------	--

HATCHETS.

V. and B. Supersteel	Each
Broad, No. 1, 24-oz.	\$1 43
Half, No. 1, 15-oz.	1 25
Half, No. 2, 27-oz.	1 27
Claw, No. 1, 19-oz.	1 21
Flooring, No. 1, 20-oz.	1 43
Shingling, No. 1, 17-oz.	1 20
Lathing, No. 1, 14-oz.	1 20
Lathing, No. 2, 17-oz.	1 25

Vanadium Steel	
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Half, No. 02, 22-oz.	\$1 82
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Underhill Pattern Lathing, 9 row, 19-oz.	2 20
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HINGES.

Heavy Strap, in Bundles	
-------------------------	--

4 inch, dozen prs.	\$1 12
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6 " " "	1 57
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8 " " "	1 92
---------	------

8 " " "	2 21
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Extra Heavy T in Bundles	
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4 inch, dozen prs.	\$1 74
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6 " " "	1 85
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8 " " "	2 21
---------	------

8 " " "	3 97
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HOES.

GardenNet
--------	----------

HOOKS.

Box	
-----	--

V. and B. No. 9, each	\$3 25
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Conductor	
-----------	--

Milcor	
--------	--

"Direct Drive" Wrought	
------------------------	--

Iron for wood or brick	15%
------------------------	-----

Cotton	
--------	--

V. and B. No. 8, each	24
-----------------------	----

Hay	
-----	--

V. and B. No. 1, each	36
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Bar Meat.

V. and B. No. 28, ¾"	89
each	
V. and B. No. 28, ¾"	16
each	

Screw Meat	
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V. and B. No. 2, per gro.	6 50
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Butchers' "G."	
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V. and B. No. 6, each	93
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V. and B. No. 8, each	11
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HOSE.

Per Ft.	
¾-in. 2 ply moided	9½c to 12½c
¾-in. cord	9½c to 10c
¾-in. wrapped	13½c

HUMIDIFIERS.

"Front-Range" Automatic	
In single lots	.....50%
In lots of 10 or more	50-5%
In lots of 25 or more	50-10%
Vapor pans, etc., each	50%

IRONS.

Sad	
Genuine Mrs. Potts, nickel plated, per set	\$1 55
Abestos No. 70, per set	2 10
Abestos No. 100, per set	2 20
E. C. Stearns'	
No. OA Corner, doz. sets	\$2 50
No. OB " "	2 75

KNIVES.

Butcher	
Beechwood Handles, 6-inch blade	.....25%
Beechwood Handles, 7-inch blade	.....25%
Beechwood Handles, 8-inch blade	.....25%
Cooper's Hoop	.....25%
Drawing	
Standard	.....25%
Adjustable	.....25%
Barton's Carpenters'	.....25%
Hay	
Iwan's Solid Socket	.....25%
Heath's	.....25%
Iwan's Sickle Edge	.....25%
Iwan's Imp'd Serrated	.....25%
Hedge	
Challenge	.....25%
Disston's No. 1	.....25%
Patty	
Common	.....25%
Lander's	.....25%
Scraping	
Beech Handles	.....25%
Lander's	.....25%

KNOBS.

Door	
Mineral	per doz. \$2 00
Porcelain	2 00
Jet	2 00

LADDERS.

Step	
Common, per ft.	.....28c
Common, with Shelf, add 10c	
IXL	.....34c
Challenge, 6 to 9 ft.	.....55c
10 to 16 ft.	.....60c
Kant-Break, per lineal ft.	.....75c

LANTERNS.

Per doz.	
Monarch tin, hot blast	\$ 25
Diets No. 2, cold blast	13 00
Best tubular	8 25
Competition lanterns No. 0	
tubular	6 90

LAWN MOWERS.

12-inch	.....\$5 20
16-inch	5 35
Ball Bearing	
4 blade, adjustable bearing	.....\$7 50
14"	
16"	7 80

LEATHER BELTING.

From No. 1 Oak Tanned Butts	
Extra heavy, 18-oz.	.....35%
Heavy, 16-oz.	.....40%
Medium, 14½-oz.	.....40%
Light, 12-oz.	.....50%

LEATHER LACING.

Cut, strictly No. 145%
---------------------	----------

LEVELS.

Disston, No. 38 Asst.	.....\$22 00
" No. 18, 20 in., each	1 40
" No. 22, 24 in., each	2 40
" Shafting, 6 in.	19 80
" 6 in. gr. glass	34 20
" No. 1 Asst.	1 75
" No. 2 Asst.	1 40
" 24-26 in., each	1 00
" 28-30 in., each	1 00

LIFTERS.

Stove Cover	
Coppered	per gro. \$4 00
Alaska	" 4 75

LOCKS.

Barn Door	
No. 60 Stearns'	per doz. \$11 00
No. 80	" 20 00

MALLETS.

Carpenters'	
Fibre Head No. 2, per doz.	\$12 00
" No. 3, " "	15 00
" No. 2½, " "	20 00
Round Hickory	
.....per doz.	\$3 00—5 00
Tinner's	
Hickory	per doz. \$2 25

MATS.

Door	
National Rigid	5 & 10 & 5%
Acme Steel Flexible	.....60%

MITRES.

Galvanized steel mitres, and caps, end pieces, outlets	.....20%
Milcor	.....25%
Galv. one piece stamped	.....40%

MOPS.

Cotton, Star (Cut Ends)	
Pounds 12' 15' 18' 24'-1-oz.	
Per doz. \$4 00 4 35 5 50 7 00	
Enterprise	.....10%
Parker	.....50 & 5%

NAILS.

Cut Steel	.....\$4 70
Cut Iron	.....4 70
Wire	
Common	.....3 80
Cement Coated	.....3 40

Quality & Beauty IN ART METAL CEILINGS AND SIDE WALLS

QUALITY—only first quality material is used in making FRIEDLEY-VOSHARDT ART METAL CEILINGS AND SIDE WALLS.

BEAUTY—is necessary for the complete and lasting satisfaction of your customers.

Having one of the finest equipped sheet metal plants in the country and employing only skilled workers enables us to serve you with **QUALITY** goods having the **BEST** DESIGNS.

Write Today for Catalog No. 33

FRIEDLEY-VOSHARDT CO.

OFFICE
733-737 S. Halsted St.

FACTORY
761-771 Mather St.

CHICAGO, ILLINOIS

CORTRIGHT METAL SHINGLES

Shingles dipped individually in molten zinc—have a heavy coating on edges as well as sides. The dipping process coming AFTER the shingles have been stamped insures that this coating has not been damaged by the stamping operation. We also make shingles from tight-coated sheets and of tin. These tin shingles we paint either red or green.

We suggest, however, that for a really permanent job use Cortright hand-dipped shingles.]

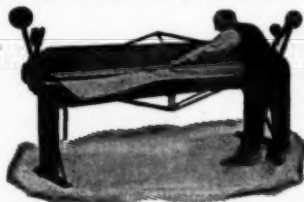
CORTRIGHT METAL ROOFING CO.
Philadelphia—Chicago



NEW CHICAGO ROTARY SLITTING SHEAR

Used in Connection with a Cornice Brake

Guaranteed
to Cut
24-Gauge
Iron



Will Split
a Sheet
or
Cut Strips
at
Any Angle

Write now for information

MAPLEWOOD MACHINERY CO.

Dealers in New and Used Machinery
2547-49 Fullerton Ave. CHICAGO, ILL.

C. G. HUSSEY & CO.

Rolling Mills and Office, PITTSBURGH, PA.

Manufacturers of

SHEET COPPER, BOTTOMS, ROLL COPPER, TINNED AND POLISHED COPPER, NAILS, SPIKES, RIVETS, CONDUCTOR PIPE, EAVES TROUGH, ELBOWS, SHOES, MITRES, ETC.

Branch Warehouses in New York, Chicago and St. Louis

Leaders and Gutters

Made From Horse Head Rolled Zinc
last a life-time

The NEW JERSEY ZINC COMPANY
160 Front Street (Established 1848) New York

CHICAGO: Mineral Point Zinc Co.

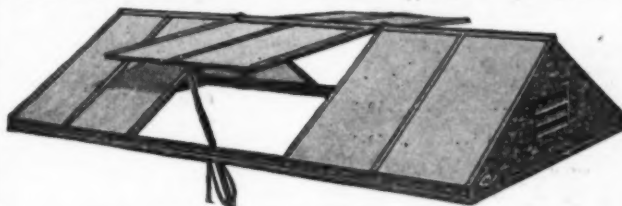
PITTSBURGH: The New Jersey Zinc Co.

CLEVELAND: The New Jersey Zinc Sales Co.

SAN FRANCISCO: The New Jersey Zinc Sales Co.

The World's Standard for Zinc Products

DO IT RIGHT—INSTALL VENTA-LIGHTS



SAVE TIME AND INCREASE PROFITS
Cash in on Reorders

Write today for prices and discounts

MESSINGER AND PARKS MANUFACTURING CO.

"SHEET METAL GOODS FOR BUILDING"

AURORA, ILLINOIS

EARLE'S VENTILATOR

IMPROVED
REVOLVING



Write
to-day
for
complete
catalog

It runs in a self-lubricating bearing that is not affected by heat or cold. It is noiseless and produces an upward current of air. No down draft. It will satisfy and give you a good profit.

BERGER BROS. CO.

229 to 237 ARCH STREET

WAREROOMS AND FACTORY: 100 TO 114 BREAD STREET
PHILADELPHIA, PA.



KESTER
Acid-Core WIRE SOLDER

REQUIRES ONLY HEAT

Sample for Test
Upon Request

CHICAGO SOLDER COMPANY
4201 Wrightwood Ave., CHICAGO, ILL.

PAIS.

Cream.			
14-qt. without gauge.	per doz.	\$9 50	
18-qt. without gauge.	per doz.	11 00	
20-qt. without gauge.	per doz.	11 75	

Sep.			
10-qt. IC Tin.	per doz.	\$4 00	
12-qt. IC Tin.	per doz.	5 50	

Stock.			
Galv. qts. 14 16 18 20			
Per doz.	\$9 75 10 75 12 75 14 50		

Water.			
Galvanized qts. 10 12 14			
Per doz.	\$5 75 6 50 7 25		

PASTE

Asbestos Dry Paste:			
200-lb. barrel	.....	\$15 00	
100-lb. barrel	.....	8 00	
35-lb. pail	.....	3 25	
10-lb. bag	.....	1 00	
5-lb. bag	.....	55	
2 1/2-lb. cartons	.....	30	

PINCERS.

All V. & B.			
Carpenters', cast steel,			
No.	6 8 10 12		
Each	\$0 43 \$0 52 \$0 61 \$0 71		
Blacksmiths', No. 10.	.....	\$0 64	

PIPE.

Conductor.			
"Interlock" Galvanized.			
Crated and nested (all gauges)	.....	60-20%	
Crated and not nested (all gauges)	.....	60-15%	
Square Corrugated A and B and Octagon.			
20 Gauge	.....	60-10%	
22 "	.....	60-10%	
24 "	.....	60-10%	
26 "	.....	60-10%	
28 "	.....	60-10%	

"Interlock."

Crated and nested (all gauges)	.....	60-7 1/4%	
Prices for Galvanized Toncan Metal, Genuine O. H. Iron, Lyonmore Metal and Keystone C. B. on application.			

Steve.	Per 100 joints.		
20 gauge, 5 inch E. C.	nested	.....	\$17 00
26 gauge, 6 inch E. C.	nested	.....	18 00
26 gauge, 7 inch E. C.	nested	.....	19 00
28 gauge, 5 inch E. C.	nested	.....	15 00
28 gauge, 6 inch E. C.	nested	.....	16 00
28 gauge, 7 inch E. C.	nested	.....	18 00
30 gauge, 5 inch E. C.	nested	.....	12 00
30 gauge, 6 inch E. C.	nested	.....	14 00
30 gauge, 7 inch E. C.	nested	.....	16 00
T-Joint Made up.	6-inch	per 100	\$40 00

Furnace Pipe.			
Double Wall Pipe and Fittings	.....	33 1/2%	
Single Wrt Pipe, Round Pipe Fittings	.....	33 1/2%	
Galvanized and Back Iron Pipe, Shoes, etc.	33 1/2%	
Milcor Galvanized	40%	

PLANES.

Stanley Iron Bench	Net	
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PLIERS.

Nut, No. 3, each	\$2 50	
" No. 5, each	64	
" No. 25, each	69	
Gaa, No. 7, each	55	
" No. 3, each	61	
" No. 12, each	57	
Linin or Crimping.			
No. 25, each	.....	64	
Button's Pattern.			
No. 6 each	.....	61	
No. 8 each	74	
Double Duty, No. 10.	50	

POINTS, GLAZIERS'.

No. 1, 2 and 3.	per doz. pkgs.	65c	
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POKERS, STOVE.

Wrt Steel, str't or bent.	per doz.	\$9 75	
Nickel Plated, coil handles	1 10	

POKERS, FURNACE.

Each	\$9 50	
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PULLEYS.

Furnace Tackle	per doz.	\$9 50	
Per gross	6 00	
" Screw (encased)	per doz.	\$9 50	

Ventilating Register.

Per gross	.....	\$9 00	
Small, per pair	.....	0 30	
Large, per pair	.....	0 50	

PUNCHES.

Machine.	Each.		
V. & B. No. 11-13, 1 1/4 x 6.	\$0 19	
V. & B. No. 90, 1/2 x 9.	27	
V. & B. No. 10, 1/2 x 10.	29	
V. & B. No. 1-6, 1/4 x 6.	12	

Center.

V. & B. No. 50, 1/2 x 4.	\$0 14	
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Belt.

V. & B. No. 101-103.	\$0 24	
V. & B. No. 108-109.	32	
V. & B. No. 25, ass't.	3 80	

Samson Line.

No. 1 Hand	Doz. lots or less	40%	
No. 2 Hand	3 doz. lots	Less 40 & 5%	
No. 4 Hand	6 doz. lots or more	Less 50%	

No. 2 Bench	Less than doz. lots	Less 25%	
	Doz. lots or more	Less 40%	

Extra Punches and Dies for Samson:

No. 1 Hand	Less than doz. lots	Less 25%	
No. 2 Hand	Doz. lots	Less 33 1/2%	
No. 4 Hand	3 doz. lots	Less 40%	
No. 3 Bench	6 doz. lots or more	Less 40 & 10%	

PUTTY.

Commercial Putty, 100-lb. kits	\$3 55	
--------------------------------	-------	--------	--

QUADRANTS.

Malleable Iron Damper	10%	
-----------------------	-------	-----	--

FLOOR REGISTERS AND BORDERS.

Cast Iron	.....	20%	
Steel and Semi-Steel	.....	33 1/2%	
Baseboard	.....	33 1/2%	
Adjustable Ceiling Ventilators	.....	33 1/2%	

Register Faces—Cast and Steel			
Japanned, Bronzed and Plated.			
4x6 to 14x14	.....	33 1/2%	
Large Register Faces—Cast.			
14x14 to 38x42	.....	60%	
Large Register Faces—Steel.			
14x14 to 38x42	.....	65%	

ROOFING.

Best grade, slate surf. prep'd	\$1 85		
Best talc surfaced	.....	2 20	
Medium talc surfaced	.....	1 50	
Light talc surfaced	.....	95	
Red Rosin Sheeting, per ton	.....	\$73 00	

ROPE.

Shal.			
1st Quality, base. 13 1/2 c to 14 1/2 c			
No. 2	.....	12 1/2 c	
Manila.			
1st Quality standard brands	.....	16 1/2 c	
No. 2	.....	15 1/2 c	
Hardware Grade, per lb.	.....	13 1/2 c	

SAWS.

Butchers'.			
Atkins No. 2, 14-in.	.....	\$12 75	
" No. 2, 18-in.	.....	14 50	
" No. 7, 16-in.	.....	15 25	
" No. 2, 22-in.	.....	15 50	
" No. 7, 20-in.	.....	18 05	
" No. 7, 24-in.	.....	20 20	
" No. 7, 28-in.	.....	22 25	

Compass.

Atkins No. 2, 10-in.	.....	\$ 5 45	
" No. 10, 10-in.	.....	5 60	
" Blades, No. 2, 10-in.	.....	2 25	
" No. 2, 10-in.	.....	2 30	

Cross-Cut.

Atkins No. 221, 4 ft.	.....	\$3 93	
" No. 221, 6-ft.	.....	4 45	
" No. 221, 8-ft.	.....	6 07	

Hand.

Copper Burrs only	.....	30%	
" No. 96, 20-in.	.....	21 70	

Hand and Rip.

Atkins No. 54, 20-in.	.....	\$19 50	
" No. 54, 26-in.	.....	24 40	
" No. 53, 18-in.	.....	18 10	
" No. 53, 20-in.	.....	22 90	
" No. 53, 24-in.	.....	26 60	
" No. 53, 28-in.	.....	31 45	
" No. 53, 30-in.	.....	34 15	

Keyhole.

Atkins No. 1, complete	.....	\$3 10	
" No. 2, complete	.....	3 70	

Miter Box.

Atkins No. 1, 4x20	.....	\$32 65	
" No. 1, 5x22	.....	38 00	
" No. 1, 6x22	.....	42 20	

Pruning.

Atkins No. 20, 12-in.	.....	\$ 8 45	
" No. 10, 16-in.	.....	18 15	

Wood.

Atkins No. 202	.....	\$ 7 19	
" No. 218	.....	8 75	
" No. 208	.....	15 50	
" No. 1509	.....	16 58	

SCRAPERS.

Box.	No. 6, six blades each	.....	25c
Hog.	No. 6, each	.....	25c
Floor (Stearns).	No. 10, each	.....	\$11 50

SCREEN DOOR HINGES.

Cast Iron	.....	gross \$13 00	
Steel	.....	9 50	

SCREWS.

Wood.			
F. H. Bright	.....	80%	
R. H. Blued	.....	78%	
F. H. Jap'd	.....	74%	
F. H. Brass	.....	76%	
R. H. Brass	.....	74%	

Sheet Metal.			
No. 7, 1/4 x 1/4, per gross	.....	\$0 55	
No. 10, 1/4 x 3/16, per gross	.....	75	
No. 14, 1/4 x 1/4, per gross	.....	90	

SCREW DRIVERS.

Uncle Sam Standard Head.			
3 inches, each	.....	\$ 45	
5 inches, each	.....	52	
8 inches, each	.....	68	
12 inches, each	.....	1 02	

Uncle Sam Insulated Head.			
3 inches, each	.....	\$ 49	
5 inches, each	.....	57	
8 inches, each	.....	76	
12 inches, each	.....	1 14	

SETS.

Nail.			
V. & B.			
No. 100, in cardboard boxes	.....	\$1 55	
No. 100, in wooden boxes	.....	1 58	
No. 20, assorted	.....	39	
No. 5, in cardboard boxes	.....	1 25	
No. 5, in wooden boxes	.....	1 30	

Rivet.

V. & B.			
Farmers'	.....	\$0 10	
Tinners' 3-4	.....	0 40	
" 50-6	.....	0 40	

Saw.

Atkins No. 10	per doz.	\$2 50	
" No. 12	.....	6 20	

SHEARS.

Nickel Plated, Straight,	Per Doz.		
" " " "	6" \$12 50		
" " " "	7" 14 50		
" " " "	8" 16 50		
Japanned, Straight	.....	6" 11 00	
" " " "	.....	7" 12 40	
" " " "	.....	8" 13 50	

SHEARS, TINNERS' & MACHINISTS'.

Viking	.....	\$22 00	
Lennox Throatless.			
No. 18	.....	35%	
Shear blades	.....	15%	
(f.o.b. Marshalltown, Iowa.)			

Peerless Steel Squaring.			
Foot Power.			
No. 1-30", 18 ga. cap.	.....	15%	
No. 2-36", 18 ga. cap.	.....	15%	
No. 4-52", 18 ga. cap.	.....	15%	
No. 10-120", 22 ga. cap.	.....	15%	
No. 4A-52", 16 ga. cap.	.....	15%	

Cast Iron Foot Power.			
No. 01, 30", 18 ga. cap.	.....	15%	

Power Driven.			
(No. 100 Series, 2 Shaft Drive.)			
No. 142-42", 18 ga. cap.	.....	15%	
(No. 200 Series, 2 Shaft Underneath Drive.)			
No. 242-42", 14 ga. cap.	.....	15%	
(No. 300 Series, 3 Shaft Underneath Drive.)			
No. 242-42", 10 ga. cap.	.....	15%	
No. 372-72", 10 ga. cap.	.....	15%	
(No. 500 Series, 3 Shaft Underneath Drive.)			
No. 596-96", 10 ga. cap.	.....	15%	
(No. 600 Series, 3 Shaft Underneath Drive.)			
No. 6120-120", 3/16" cap.	15%	

SHINGLES.

Zinc (Illinois)	Per Square	\$18 00
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SHOES.

Milcor.			
Galv. Std. Gauge, Plain or corr. round flat crimp.	65%	
26 gauge round flat crimp.	40%	
24 gauge round flat crimp.	.....	10%	
Conductor	.....	65%	

SHOVELS AND SPADES.

Coal.				
Hubbard's.				
No.	A	B	C	D
1	\$16 00	15 10	14 45	13 70
2	16 35	15 60	14 35	14 10
3	16 75	16 00	16 25	14 45
4	17 10	16 35	16 60	14 85

AREX

Arex Ventilators have the reputation of out-lasting the building in most cases. Supplying such service on your contracts builds a good name for you plus larger profits.

AREX COMPANY

J. C. Kernchen, Pres.

1581 Conway Building, Chicago

THE ORIGINAL SIPHONAGE VENTILATOR



No. 61 Red-Hot Fire Pot

Something Worth While

Our No. 61 Coil Fire Pot is the best and most Reliable Coil Fire Pot made. Tank is made of heavy gauge, seamless drawn steel, tinned inside and out, rust proof, fitted with extra large funnel and filler plug with dust proof cap. Every mechanic should have one of these fire pots.

Jobbers supply at factory prices. Send for free catalog.

ASHTON MFG. COMPANY

Newark, N. J., U. S. A.

THE learning and knowledge that we have is, at the most, but little compared with that of which we are ignorant.

—PLATO

Good trade books will without a doubt help you to increase your practical knowledge of your trade. We sell good trade books.

—AMERICAN ARTISAN

BURNS BETTER--LASTS LONGER



No. 208 Torch
List Price Each, \$17.00
Ask for Discount

The No. 208 Torch has improved Double Blunt Needle Burner, producing about 300 degrees more heat. Orifice cannot clog as the upper needle keeps it cleared. Both Needles are blunt, making it impossible to ruin the burner by forcing as in other makes having sharp needles. No. 208 is the Torch for quick work and hard service and will outlast two ordinary Torches. Jobbers supply at factory prices. Ask for a catalogue.

CLAYTON & LAMBERT MFG. CO.
10635 Knodell Ave., DETROIT, MICH., U.S.A.

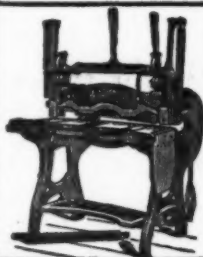


Have you seen
THE BIG VENT
WITH THE GREAT PULL?
ÆOLUS
VENTILATOR
RIGID—STRONG—DURABLE

Made in all sizes of all metals. They are reasonably priced and we make quick shipments.

ÆOLUS DICKINSON CO.

Vent Makers Since 1888
3332-3352 South Artesian Ave. CHICAGO, ILLINOIS
Telephone: Lafayette 1862-1863



TREADLE SHEAR

This TREADLE GAP SHEAR is made in all standard sizes for No. 14 and lighter gauge sheets. With it, sheets can be squared, trimmed or slit.

We make a complete line of shears, punches and bending rolls, all sizes for hand or belt drive. Write for Catalog "S."

BERTSCH & COMPANY Cambridge City, Ind.



Send for catalog today

VIKING SHEAR

Compound LEVER Handle — Removable Blades

A child can work them

VIKING SHEAR CO., Erie, Pa.

"THE STANDARD"
VENTILATOR and CHIMNEY CAP

DOES away with high stacks, swings freely in the slightest breeze and positively cures down-drafts. The strongest and most efficient combination to be had. Has no equal for chimney purposes. All jobbers sell them—write your jobber or us for prices and catalog today.

Manufactured by
STANDARD VENTILATOR CO.
LEWISBURG, PA.



Plecker's Galvanized Eave Trough and Corrugated Expanding Conductors

Made of
Keystone
Copper Bearing
Steel

CLARK-SMITH HARDWARE CO.

Costs no more
Lasts Longer
Therefore
Cheaper.

PEORIA, ILLINOIS

SNIPS, TINNERS'.	
Clover Leaf	40 & 10%
National	40 & 10%
Star	50%
Milcor	Net

SQUARES.	
Steel and Iron.....	Net
(Add for bluing, \$3.00 per doz. net)	
Mitre	"
Try	"
Try and Bevel.....	"
Try and Mitre.....	"
For's	per doz. \$6 00
Winterbottom's	10%

STAPLES.	
Blind.....	
Barbed	per lb. 21@22c
Butter, Tub.....	" 16@19c
Fence—	
Polished	per 100 lbs. \$5 45
Galvanized	" 6 15
Netting.....	
Galvanized	per 100 lbs. \$6 54
Wrought.....	
Wrought Staples, Hasps and	
Staples, Hasps, Hooks and	
Staples, and Hooks and	
Staples	50 & 10%
Extra heavy	35%

STONES.	
Axe.....	
Hindustan	per lb. New Nets
More Grite	" "
Washita	" "
Emery.....	
No. 126.....	per doz. New Nets
Oil—Mounted.....	
Arkansas Hard	
No. 7.....	per doz. New Nets
Arkansas Soft.....	" "
Washita No. 717	" "
Oil—Unmounted.....	
Arkansas Hard per lb. New Nets	
Arkansas Soft.....	" "
Lilly White.....	" "
Queer Creek.....	" "
Washita	" "
Seythe.....	
Black Diamond per gro. New Nets	
Crescent	" "
Green Mountain	" "
LaMolle	" "
Extra Quinne- bog	" "
Red End	" "

STOPS, BENCH.	
No. 10 Morrill pat- tern	per doz. \$11 00
No. 11 Stearns pat- tern	" 10 00
No. 15 Smith pat- tern	" 7 00

STOPPERS, FLUE.	
Common	per doz. \$1 10
Gem. No. 1.....	" 1 10
Gem. flat, No. 3.....	" 1 00

STRETCHERS.	
Carpet.....	
Bullard's	per doz. \$3 90
Excelstor	" 5 25
Malleable Iron.....	" 70
Perfection	" 6 30
King	" 4 50
Wire.....	
O. S. Elwood, No. 1 per doz. Nets	
O. S. Elwood, No. 2.....	" "

SWIVELS.	
Malleable Iron.....	per lb. \$6 10
Wrought Steel.....	per gro. 4 50

TACKS.	
Bill Posters' 6-oz. 25-lb. boxes	
per lb.	15c
Upholsterers' 6-oz. 25-lb. boxes, per lb.	15 1/4c

TAPES, MEASURING.	
Asses' Skin	List & 40%

THERMOMETERS	
Tin Case.....	per doz. \$20 & \$1 25
Wood Backs	" \$2 00 & 12 00
Glass	" 12 00

TIES.	
Single Loop, carload	
lots	75 & 7%
Single Loop, less than	
car lots	70 & 15%

TRAPS.	
Mouse and Rat.....	Per Gross.
Sure Catch Mouse Traps.....	\$2 10
Vim Mouse Traps.....	3 10
Short Stop Mouse Traps.....	1 80
Wood Choker Mouse	
Traps, 4 hole.....	10 25
Per Doz.	
Sure Catch Rat Traps.....	\$30 90
Dead Easy Rat Traps.....	1 00

BASKETS.	
Packed in One Bushel Band Stave	
List per Bushel.	
Sure Catch Mouse Traps	
(360 Traps)	\$5 25
Short Stop Mouse Traps	
(360 Traps)	4 50
Sure Catch Rat Traps (54	
Traps)	3 60
Short Stop Rat Traps (54	
Traps)	3 15
Assorted Mouse and Rat Traps.	
List per Bushel.	
Sure Catch (216 Mouse	
Traps and 26 Rat Traps) \$4 90	
Short Stop (216 Mouse	
Traps and 26 Rat Traps) 4 25	

TROWELS.	
Cement.....	
Atkins No. 6.....	\$19 50
" No. 9.....	25 50

TWINE.	
White Cotton.....	
Eureka, 4-ply.....	per lb. 30c
Jute.....	
3-ply and 6-ply Bale Lots	22 1/2c

VALLEY.	
Milcor	
Galv. formed or roll.....	60%

VENTILATORS.	
Standard.....	30 to 40%

VISES.	
No. 700 Hand.....	
Inches	4 1/2 5 5 1/2
Doz.	\$11 15 13 00 14 55
No. 701.....	
In. 4 5 6	
Doz.	\$11 15 13 00 16 70
No. 1, Genuine Wentworth,	
Noiseless Saw.....	9 25
No. 2, Genuine Wentworth,	
Noiseless Saw.....	12 75
No. 500, All Steel Folding	
Saw	per doz. 16 00

WASHERS.	
Over 1/2 in. barrel lots	
per 100 lbs.	\$6 25
Iron and Steel.....	
In. 5/16 3/4 1/2 3/4 7/8	
10 1/4c 9 1/4c 7 1/4c 7 1/4c 7 1/2c	

WEATHER STRIPS.	
Metallic Stitched.....	
1/2 in., per 100 ft.	\$1 80
3/4 in., per 100 ft.	2 20
Wood and Felt.....	
1/2 in., per 100 ft.	\$1 56
3/4 in., per 100 ft.	1 56

WEIGHTS.	
Hitching	per lb. Nets
Sash—f. o. b. Chicago	
Smaller lots, per ton.....	\$47 50

WHEEL BARROWS.	
Common Wood Tray.....	\$3 75
Steel Tray, Competition.....	4 50
Steel leg. garden.....	6 00

WIRE.	
Plain annealed wire, No. 5	
per 100 lbs.	\$3 70
Galvanized barb wire, per	
100 lbs.	4 10
Wire cloth—black painted,	
12-mesh, per 100 sq. ft.	2 35
Cattle Wire—galvanized	
catch weight spool,	
per 100 lbs.	4 60
Galvanized Hog Wire, 80 rod	
spool, per spool.....	3 98
Galvanized plain wire, No. 9,	
per 100 lbs.	4 15
Stove Pipe, per stone.....	1 10

WOOD FACES.	
50% off list.	

WRENCHES.	
Coes Steel Handle, 6-in.	40-10%
" " " 8-in.	40-10%
" " " 10-in.	40-10%
" " " 12-in.	40-10%
Coes Knife-Handle, 6-in.	40-10%
" " " 8-in.	40-10%
" " " 10-in.	40-10%
" " " 12-in.	40-10%
Coes All Patterns.....	40-10%

WRINGERS.	
No. 799, Guarantee per doz. \$49 50	
No. 770, Bicycle	47 00
No. 770, Domestic	45 50
No. 770, Brighton.....	39 00
No. 750, Guarantee.....	51 00
No. 740, Bicycle.....	48 50
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No. 2, Superb.....	35 50

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